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ABSTRACT

This Home Start followup study was designed to determine the long-term impact of Home Start on program participants in sixteen states within the USA. Home Start was a three-year demonstration program which provided Head Start-type comprehensive services to young children (3- to 5-year-olds) and their families in their homes. In Chapter 1 background information is provided about the followup study design, including a brief description of the original Home Start evaluation and its results. The next two chapters address two key implementation issues. Chapter 2 reports on the tracking of Home Start and Head Start families who participated in the original evaluation. Also included in this chapter are descriptive profiles of the Home Start followup study sample and a report on sample attrition effects. Chapter 3 describes how the comparison group for the followup study was selected and compares the Home Start and comparison groups on a number of child and family characteristics to determine group equivalency. Chapters 4 and 5 present the results of the followup study. Long-term program effects on parents are examined in Chapter 4, followed by presentation of child outcomes in Chapter 5. The concluding chapter of the report discusses implications of the Home Start followup study design. (Author/MP)

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HOME START FOLLOWUP STUDY

A Study of Long-Term Impact of Home Start on Program Participants

Final Report

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FOREWORD

The Home Start Followup Study, sponsored by the Administration for Children, Youth and Families (formerly the Office of Child Development), was designed to determine the long-term impact of Home Start on program participants. Home Start was a three-year demonstration program carried out in sixteen locales to demonstrate alternative ways of providing Head Start-type comprehensive services for young children in their homes. The program's approach was to offer education, health, nutrition and social services to families of children between three and five years of age, and to do so in a family-oriented rather than a strictly child-oriented way. This meant showing parents not only how to improve their living conditions but also how to teach their own children, using as materials the everyday objects and routines of family life. Home Start was not designed to replace Head Start, but rather to develop a viable alternative for Head Start programs interested in expanding their services.

With its focus on the family, Home Start became part of the mainstream of current trends in child development, sociology, psychology and education. By 1972, when Home Start was initiated, a number of projects at the state and federal level were recognizing the family unit as the primary learning environment and the most effective arena in which to influence social change. Home Start viewed the home as a place where preschoolers learn critically important skills. It was Home Start's philosophy that by building upon existing family strengths and by utilizing parents in their role as the first and most important educators of their own children, the quality of children's lives would be enhanced.

This was in fact demonstrated in the evaluation of the Home Start Program which was conducted jointly by the High/Scope Educational Research Foundation and Abt Associates Inc. This evaluation provided clear evidence that Home Start was effective for both parents and children. Few differences were found in terms of program effectiveness between Home Start and Head Start; although there were occasional differences favoring one program or the other, the overall picture was one of similar effects.* Thus, at the conclusion of the Home Start evaluation, efforts to provide a home-based component of Head Start were viewed as complementary to the basic Head Start program.

In the late sixties, critics had begun to attack the effectiveness of Head Start, and of early education in general. They claimed that such programs have no lasting effects--that any effects fade out within the first year or two of formal schooling. These claims have since been refuted in a national collaborative study conducted by twelve research groups for the Education Commission of the States and the Administration for Children, Youth and Families. This study** provided evidence that preschool programs improve the ability of low-income children to meet the requirements of their schools.

The earlier attacks were a blow to child care policy, however, and they gave impetus to the diversification of Head Start and the development of more family-oriented programs like Home Start. By involving parents in the

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* Love, J.M., Nauta, M.J. et al. National Home Start Evaluation: Final Report--Findings and Implications. High/Scope Educational Research Foundation and Abt Associates Inc., 1976.

**Lazar, J., Hubbell, V.R., Murray, H., Roscha, M., Royce, J. Summary: The Persistance of Preschool Effects. The Consortium on Developmental Continuity, 1977.

cognitive development of their own children, Home Start hoped to provide longer-lasting intervention and durability of gains made through the child's early school years. The degree to which this goal has been achieved is one of the principal research questions the Home Start Followup Study was designed to address.

Report Organization

This report presents the results of the Home Start Followup Study conducted by Abt Associates Inc., under subcontract with the High/Scope Educational Research Foundation. In Chapter 1 background information is provided about the Followup Study design, including a brief description of the original Home Start evaluation and its results. The next two chapters address two key implementation issues. Chapter 2 reports on the tracking of Home Start and Head Start families who participated in the original evaluation; also included in this chapter are descriptive profiles of the Home Start Followup Study sample and a report on sample attrition effects. Chapter 3 describes how the comparison group for the Followup Study was selected and compares the Home Start and comparison groups on a number of child and family characteristics to determine group equivalency.

Chapters 4 and 5 present the results of the Followup Study. Long-term program effects on parents are examined in Chapter 4, followed by presentation of child outcomes in Chapter 5. The concluding chapter of the report discusses implications of the Home Start Followup Study design.

Acknowledgements

The Home Start Followup Study could not have been completed without the cooperation and assistance of numerous persons and groups. Several of these deserve special recognition for their contributions over the course of this evaluation effort.

We are especially grateful to Dr. (Ruth) Ann O'Keefe, the ACYF National Program Office responsible for implementing the National Home Start Demonstration Program. She provided valuable support and input when the Home Start Followup Study was initiated.

The important roles played by former Home Start and Head Start program directors also must be acknowledged. Staff from these programs assisted in the tracking of participants in the original Home Start evaluation and helped to gain the cooperation of local schools.

We want to acknowledge the assistance we received from the Committee on Evaluation and Information Systems (CEIS), a national group consisting of representatives of state Departments of Education. We are particularly indebted to Mr. Ronald Carpenter of the Arkansas State Department of Education, who approved the study design and data collection plans. Valuable assistance in study implementation was also provided by CEIS Coordinators at the other five sites where the Followup Study took place. Finally, we extend our gratitude to the numerous school districts and schools in the six states who were willing to participate in the Followup Study and helped to implement the study.

Special thanks go to the three groups of families--Home Start, Head Start and comparison--who provided information about the long-term impact of the Home Start program. Clearly, the study would not have been possible without their help.

We want to acknowledge the input we received from the members of our National Advisory Panel--Sueann Ambron, Virginia Burke, John R. Dill, Paul Dokecki, Daniel Ogilvie, and Mary Rowe, who provided valuable ideas during the initial phase of the study.

We also want to thank our Abt colleagues and staff for their help. Bill Bache, as Research Director, had primary responsibility for the selection of child measures, psychometric analyses and the child outcome study. Robert Goodrich also assisted the project in the development of a study design and analysis plan. Ilona Ferraro had responsibility for study implementation and skillfully directed the data collection effort. Thanks also go to Kathryn Hewett for her work on the parent interview and the design and implementation of a small descriptive family study that was carried out as part of the Followup Study; Jean Layzer for assistance provided on parent measures; Dennis Affholter for work on analysis; Jeff Travers for his review of the project; and Nancy Stickels and Patricia McMillan for report preparation. Thanks also go to staff at High/Scope who under the direction of Nancy Naylor processed Home Start Followup Study data.

Finally, we would like to thank Dr. John M. Love of the High/Scope Educational Research Foundation and our ACYF Project Officer, Dr. Esther Kresh, for their continuing direction and assistance from the inception of the study through data collection and the final report.

CHAPTER I

STUDY OVERVIEW AND DESIGN

The foreword provided background information on the Home Start program and briefly reviewed the two research questions to be addressed in the Home Start Followup Study. More detailed information about various aspects of the Followup Study, including the study design, the measurement battery and study implementation, are presented in this chapter.

Section 1.1 provides information about the original Home Start evaluation to set a framework for the Followup Study; the section describes the site selection process, the study design, implementation, evaluation measures and the most important findings. A brief overview of the Home Start Followup Study is presented in Section 1.2. The design for the Followup Study is described in Section 1.3, and Section 1.4 reviews the measures that were used to determine the long-term impact of Home Start on parents and children. The chapter concludes (Section 1.5) with a discussion of the analytic approach which was planned for the study and some of the problems which were encountered.

1.1 The Original Home Start Evaluation

As noted earlier, a national evaluation of the Home Start Demonstration Program was carried out by the High/Scope Educational Research Foundation and Abt Associates Inc. from 1972 to 1975. The evaluation was designed to measure the effects of home-based program operations by documenting actual changes in parents and children, and to determine the relative cost-effectiveness of Home Start and Head Start.

Evaluation Design

Whereas all 16 Home Start projects participated in the evaluation, only six were involved in the impact study (summative evaluation). The location of the six impact study sites was as follows:

- Alabama -- De Kalb, Jackson, Limestone, Madison and Marshall Counties (predominately rural);
- Arkansas -- Jackson, Franklin, Perry, Pope and Scott Counties (rural);
- Kansas -- Wichita and Sedgewick County (urban);
- Ohio -- Cleveland (urban);
- Texas -- Houston and Harris County (predominantly urban); and
- West Virginia -- Calhoun, Doddridge, Gilmer, Jackson, Pleasants, Ritchie, Roane, Tyler and Wood Counties (rural).

For a variety of practical reasons, the six were not randomly selected, although there appeared to be no major differences between the six impact sites and the other ten Home Start projects.

A critical feature of the evaluation design was a control (no-treatment) group and a comparison group of Head Start families against which to judge Home Start's impact and effectiveness. To permit the selection of a control group, the six Home Start projects recruited twice as many families as could be enrolled. An attempt was made to assign families randomly to Home Start and control groups, although full random assignment

was not achieved. Nonetheless, there were virtually no differences between the two groups on entering characteristics. The families in the control group were enrolled in Home Start after they had been on the waiting list for one year. They thus became the one-year program group for comparisons of two- versus one-year program effects.

Families were not randomly assigned to Head Start, and indications were that Head Start and Home Start at the six sites served different populations. In general, Head Start families were less disadvantaged than those in the Home Start group. Head Start comparison groups participated in the evaluation at four of the six sites where there were two-year programs. During the final year of the evaluation, data were also obtained from Head Start programs in the two urban sites (Kansas and Ohio) which operated one-year programs.

An attempt was made to include 40 families in each group--Home Start, control and Head Start--at each site. Fewer than 40 families per group were involved in the evaluation in some projects because a large portion of the families were Spanish-speaking; non-English speaking families were not included in the impact study.

Data Collection

Data were obtained at four time points to assess program impact: fall 1973 (pretest), spring 1974 (7 months later), fall 1974 (12 months later) and spring 1975 (20 months later). The final phase of the evaluation (1974-75) included a comparison of program impact after one

and two years of program involvement, as well as a replication study of the 7-month findings involving a group of families who were recruited in 1974 to supplement the one-year program (former control) group.

There was considerable attrition from the original sample at each time point in the evaluation. By the spring of 1975, 42 percent of the 251 Home Start children who had participated in the fall 1973 pretest remained in the study; 44 percent of the 162 control group children and 43 percent of the 143 Head Start children were retained through the final data collection phase of the evaluation. At each test point, attrited families were compared with the remaining group on their entering scores. A few differences were observed on some measures at different time points, but in general sample attrition appears not to have added any serious bias to the group comparisons.

Impact Study Measures

To provide a broad assessment of program effects on children and parents, 11 measures were selected for the impact study. Impact on children was measured in the areas of school readiness, social-emotional development, physical development, nutrition, and medical care. Impact on parents was measured in the areas of mother/child relationship, mother as teacher, home materials for the child and use of community resources. The 11 measures were:

- Preschool Inventory (PSI)
- Denver Developmental Screening Test (DDST)

- Child 8-Block Task
- Schaefer Behavior Inventory (SBI)
- Pupil Observation Checklist (POCL)
- High/Scope Home Environment Scale (H/S HES)
- Mother Behavior Observation Scale (MBOS)
- Parent Interview
- Child Food Intake Questionnaire
- 8-Block Sort Task
- Height and Weight

Summary of Evaluation Findings

Four key findings emerged from the study of the "impact" of Home Start:

- On a number of dimensions Home Start produced significant changes in parents compared to the control group;
- Home Start children also showed greater gains in their development compared to the control group;
- There were few differences in impacts on children and parents between those who participated in the program for two years and those who participated for only one year;
- There were few differences between the effects of Home Start and Head Start on parents and children.

The original study, then, provided clear evidence that Home Start was effective for both parents and children*.

1.2 Home Start Followup Study Overview

While the original evaluation provided information about immediately apparent program effects, the Home Start Followup Study attempted to examine the durability of gains made as the result of families' participation in the program. In addition, the Followup Study was designed to determine whether program duration (one vs. two years) had an effect on parents and children approximately two years after the Home Start demonstration program concluded.

The policy issues and objectives of the Followup Study may be outlined very simply as a set of comparisons of certain outcome criteria among different treatment groups. The outcome criteria were closely linked to Home Start program goals and objectives, as well as to areas measured during the Home Start evaluation. They were:

(1) Personal and parenting skills of parents;

(2) Ease of transition to school and social competence of children; and

(3) Cognitive and social-emotional measures for children.

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*Love, J.M., Nauta, M.J. et al., National Home Start Evaluation: Final Report -- Findings and Implications. High/Scope Educational Research Foundation and Abt Associates Inc., 1976.

Basically three sets of comparisons were made during the Followup Study:

- Home Start children and families versus a group of children and families that were eligible for Home Start but did not participate;

- Home Start children and families who had participated for one year versus those who had participated for two years;

- Children and families who had participated in Home Start versus those who had been enrolled in Head Start.

Since the control group of the original evaluation had entered the program during the study's final year, a new comparison group had to be selected retrospectively for participation in the Followup Study. This comparison group was selected from the same classrooms that Home Start children attended. To the extent possible, the comparison group children were matched with the Home Start group, child for child, on as many child and family characteristics as possible. Each child of the Home Start group would thus be associated with a comparison child in the same classroom and with the same educational history except for preschool experience.

Before a comparison group could be selected, however, Home Start and Head Start participants in the original evaluation needed to be tracked to their current schools. Feasibility of implementing the Followup Study to a large extent depended on the success of the tracking task. The groups

had to be sufficiently large to permit a meaningful study of long-term program impact. The issue of sample size is addressed in more detail in the study design section (1.3) which follows.

The Followup Study was conducted in two phases. The first phase (July 1976 through January 1977) was for the purpose of determining Followup Study feasibility. The tracking and comparison group selection tasks were undertaken during this period. This phase was followed by a one-time data collection during the late spring of the 1976-77 school year involving all three groups of families.

Original plans for the Followup Study called for conducting a descriptive family study in the event that the Followup Study was not deemed feasible. The descriptive study was designed to increase understanding of how participation in a family support program is seen by families themselves. A small exploratory field test of this study was conducted during the first phase of the study, involving two interviews with nine families in Arkansas and Kansas. The interview explored in greater depth topics covered in the Followup Study parent interview. Descriptive information obtained during this field test are presented in Chapter 4 along with findings from the parent study.

1.3 Followup Study Design

By the end of the original Home Start evaluation there was no control group. The families which had served that function during the first year of the study became part of the one-year Home Start group.

It was necessary, therefore, to recruit a comparison group for the Followup Study. In each classroom where a Home Start child was found, an attempt was made to match him or her with another child who had no (or very little) preschool experience but whose family had approximately the same income and years of education for the mother. If several candidates passed this screening the child most closely matched on age, sex and race (in that order of priority) was selected.

The relationship between the groups in the original evaluation and the groups in the Followup Study is shown in Figure 1-1. HMS2 and HMS1 denote the two- and one-year Home Start groups, which were pooled in Followup Study analyses comparing Home Start with comparison group (COMP) and Head Start (HDS) families. Because so few Head Start families were successfully tracked, it was necessary to pool the one- and two-year Head Start groups in the Followup Study.

The ex post facto recruitment of the comparison group unfortunately precluded the possibility of establishing a true experimental design for the Followup Study. Inability to capitalize on data from the original evaluation, in fact, resulted in what Campbell and Stanley (1963) call a pre-experimental design. Figure 1-2 represents this design, which they

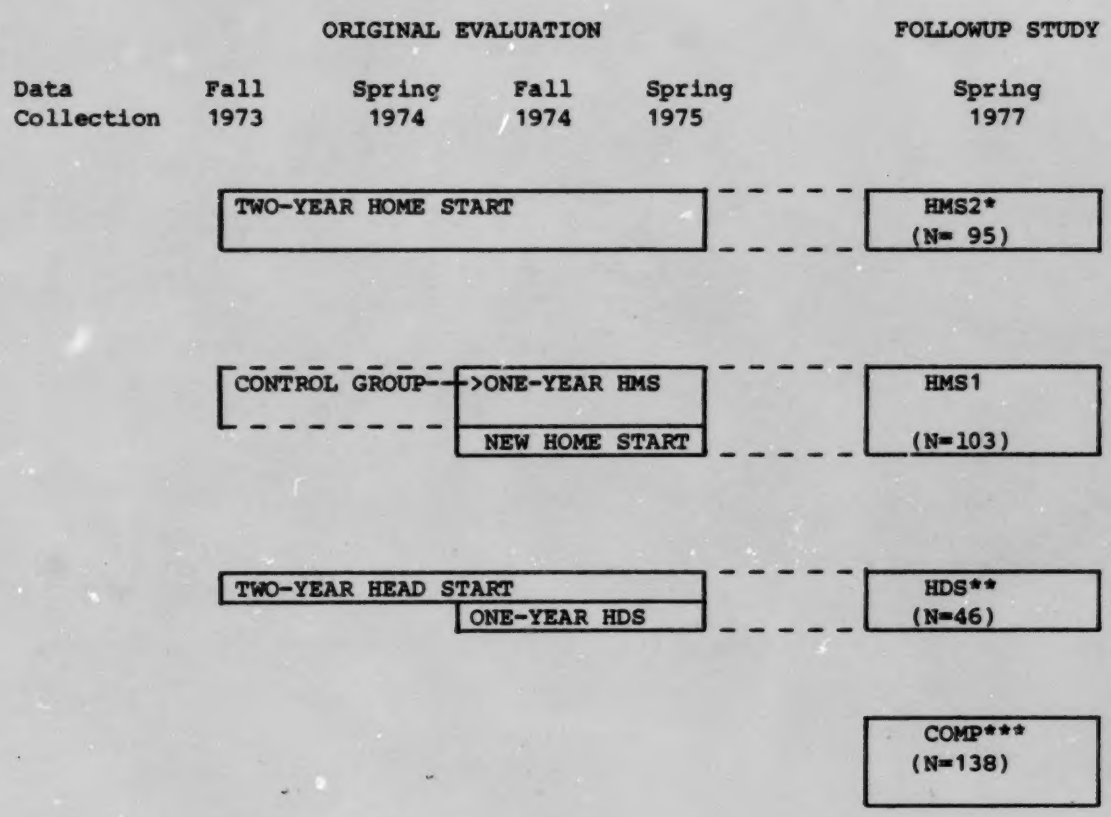
Figure 1-2

The "Static Group Comparison" Design of the Followup Study (Campbell and Stanley, 1963)

$$\begin{matrix} X & O_1 \\ - - - - & - \\ & O_2 \end{matrix}$$

Figure 1-1

Relationship of Groups in the Original Home Start Evaluation to Groups in the Followup Study



*One- and Two-year Home Start groups were pooled for some analyses in the Followup Study.

**One- and two-year Head Start groups were pooled in all Followup Study Study analyses in order to achieve an adequate sample size.

***The Followup Study comparison group was sampled ex post facto by attempting to match children/families to Home Start children/families within each classroom where the Home Start Child was tracked. In 62 cases it was not possible to achieve a satisfactory match.

call "The Static Group Comparison." The Home Start Program is represented by "X," while data collection is represented by "O". The line separating groups 1 and 2 (corresponding to the HMS and COMP groups, respectively) indicates nonrandom selection. The shortcomings of such a design, which was unavoidable in the Followup Study, are summarized well by Campbell and Stanley (1963, p. 12):

> In marked contrast with the "true" experiment [there are] no formal means of certifying that the groups would have been equivalent had it not been for the X. This absence, indicated in the diagram by the dashed lines separating the two groups, provides the next factor needing control, i.e., <u>selection</u>. If O_1 and O_2 differ, this difference could well have come about through the differential recruitment of persons making up the groups: the groups might have differed anyway, without the occurrence of X. . . .
>
> Matching on background characteristics other than O is usually ineffective and misleading, particularly in those instances in which the person in the "experimental group" have sought out exposure to the X.
>
> A final confounded variable for the present list can be experimental <u>mortality</u>, or the production of O_1-O_2 differences in groups due to the differential drop-out of persons from the groups. Thus, even if . . . the two groups had once been identical they might differ now not because of any change on the part of individual members, but rather because of the selective drop-out of persons from one of the groups.

In addition to selection and "mortality" (attrition), Campbell and Stanley cite maturational differences in the two groups and the interaction of selection and maturation as other possible threats to the internal validity of such a design. Threats to external validity arise principally from the potential interaction between selection and treatment.

Clearly, the risks in using a post hoc comparison group in the Followup Study were substantial. Yet there was no other choice, since the original control group had been absorbed into the program. In order to cope with the possibility that the groups to be compared (HMS vs. COMP, HMS vs. HDS, HMS1 vs. HMS2) would differ with respect to background variables, such as socioeconomic status or post-test performance in the original evaluation, analysis of covariance was planned as the principal statistical method. Yet this plan, too, ran into difficulty. Before discussing this problem, however (in Section 1.5), we will first review the measures used in the Followup Study.

1.4 Followup Study Measures

Seven measures were selected for the Home Start Followup Study to determine the long-term impact of the Home Start program on parents and children. These measures were selected in consultation with a National Review Panel and officials from the Administration for Children, Youth and Families. Four of the measures were standardized tests for children, two were questionnaires to be completed by the children's teachers, and the last was a personal interview with parents. The two teacher questionnaries were deleted from the measurement battery when it became evident that Office of Management and Budget clearance could not be obtained until the subsequent school year. If retrospective data had been obtained, the reliability of teacher reports would have been suspect at best. It is unfortunate that teacher data could not be collected for the Followup Study, since this would have provided information about the child's school adjustment, as well as about his/her interest and eagerness to participate

in classroom activities. In addition, data would have been obtained about the child's rank in class and absences from school. The school questionnaires would also have shed light on the teacher's knowledge of the child's participation in Head Start or Home Start--essential data in evaluating the validity of teacher reports.

Child Measures

Three domains were identified as relevant to the long-term impact of the Home Start program on children during their first years of formal schooling. They were: academic achievement, social adjustment to the school setting, and child health. Academic achievement was measured by the Mathematics and Reading Recognition subtests of the nationally standardized Peabody Individual Achievement Test. School adjustment was measured indirectly by three tests:

- In the Purdue Social Attitude Scale for the Primary Grades, the child expresses his/her feelings about being in different social situations (depicted in cartoons) and the feelings of others in the cartoons by selecting one of five cartoon faces showing different degrees of happiness and displeasure.
- The Stephens-Delys Reinforcement Contingency Interview asks the child such questions as "What makes Mother happy?" and "What makes the teacher angry?" Items are scored in terms of whether the reinforcements originate with the child (e.g., "When I bring her flowers") or from some other, external source (e.g., "When the sun is shining"). The construct measured is one aspect of the broader domain usually referred to as locus of control.

- The Preschool Interpersonal Problem-Solving Test asks the child for solutions to problems of an interpersonal nature, such as obtaining a toy from a child who is already playing with it. The score used in this study was the number of qualitatively different solutions generated in response to seven problems. Despite the fact that the test was developed for use with preschool children, this scoring procedure proved appropriate for the older children in the Followup Study.

The results of psychometric analyses of the child tests are summarized in Chapter 5 and presented in greater detail in Appendix A.

General health status of the child was assessed through the Parent Interview, which also addressed certain aspects of school adjustment and achievement. These are discussed in Chapter 4.

Parent Measures

The Home Start Followup Study parent interview provided an assessment of the impact of Home Start on parents. In addition, information on SES and other family characteristics was obtained to determine group comparability. These data also were used as covariables in the child study.

The parent interview collected data on six parent outcome variables. They were:

- Parent's knowledge and use of community resources;
- Parent participation in the community;
- Parent attitudes toward school;

- Parent involvement with school;
- Parent child-rearing practices, attitudes towards children and parent-child interaction; and
- Parental knowledge regarding their own and their child's health.

The variables selected for the Parent Interview represent dimensions of parent competence, from the parent's ability to utilize the resources available to the family in a crisis to her ability to understand and meet her child's needs. Descriptions of these parent outcome domains are presented in Chapter 4, along with findings from the parent study.

1.5 Analytic Approach

As stated previously, it was planned that analysis of covariance (ANCOVA) would be used to assess the long-term impact of the Home Start program on children. As it turned out, however, an important assumption regarding ANCOVA was not upheld, and this posed serious obstacles for the assessment of program impact. In order to present this situation clearly, a brief overview of the analysis of covariance is provided here, using a single covariable (such as mother's education) and a single outcome measure (such as mathematics achievement) as an example.*

*This discussion will not address the problem of bias in estimating treatment effects when the covariable is fallible. The reader is referred to Campbell and Boruch (1975) and Cronbach et al. (1977) for a discussion of this important issue.

ANCOVA is a useful analytic technique for increasing the power of statistical tests of group differences. It capitalizes on the relationship (covariance) between the outcome variables of principal interest and background variables which provide information about the groups being evaluated. Such covariables might consist of socio-economic status, pretreatment test scores, or anything else which helps predict performance on the outcome measures. Since some of the variation in outcome scores is attributable to variation in background or pretreatment status, ANCOVA increases statistical power by using this relationship to reduce the unexplained variance in outcomes when testing for group differences.

In applying this technique. however, it is important that the groups be equivalent with respect to the covariables. In essence, this simply means that the groups should have been the same prior to application of the experimental treatment in one of them. If this is the case and there is no "cross-fertilization" during the experiment, then the subsequent status of the control groups (which did not receive the treatment) can be taken as a measure of what would have happened to the experimental group had it too not received the treatment. That is, the postexperimental status of the control group forms the basis of the null hypothesis.

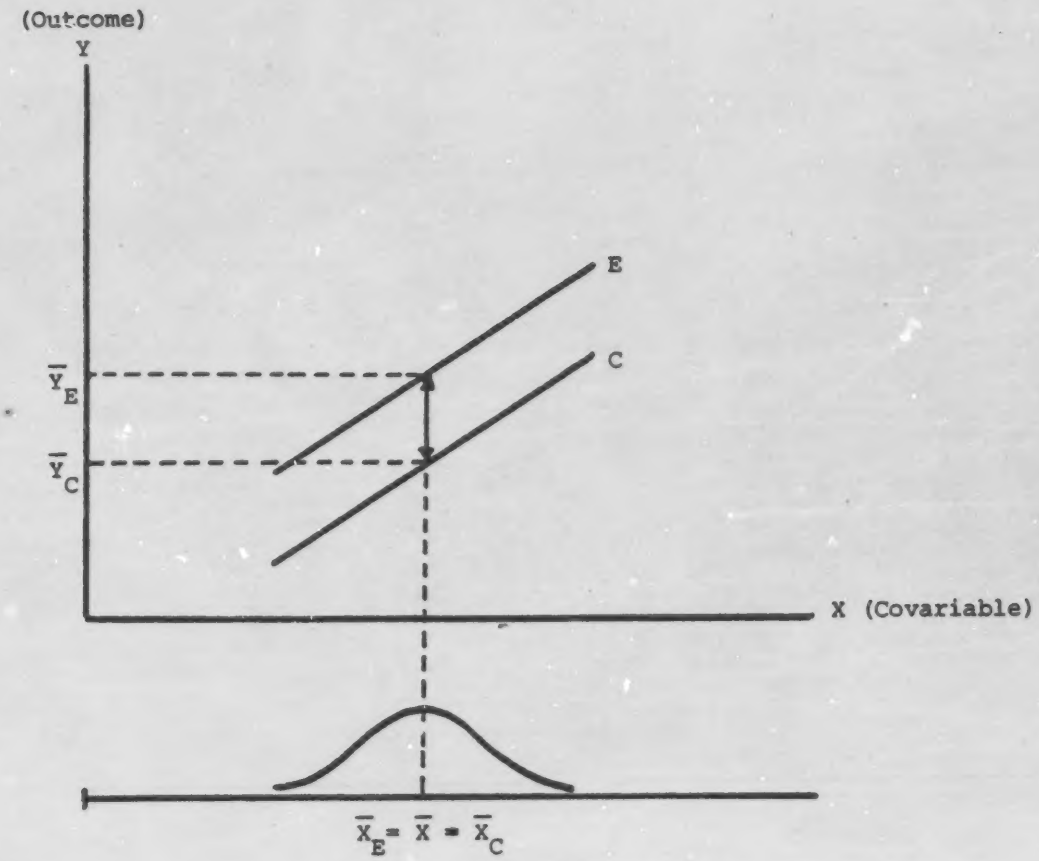
The method by which families are assigend to groups is the most important determinant of pretreatment equivalence. Optimally, the experimental and control groups would be established through random assignment, and the distribution of covariables such as mother's education would be the same in

each group. Moreover, the relationship between mother's education and child's achievement in mathematics would be the same in both groups--i.e., the regression lines would be parallel. This latter condition is called homogeneity of regression and is an especially important assumption underlying ANCOVA. Figure 1-3 illustrates the analysis of covariance under these conditions. As in any test of between-group differences (covariance or otherwise), the estimated treatment effect is the vertical distance between the regression lines. Since there is no difference in mother's education between the groups, the distance between the lines is simply the unadjusted difference in math achievement between the groups ($\bar{Y}_E - \bar{Y}_C$). The purpose in using ANCOVA in these circumstances, therefore, is not to correct for nonequivalence in background status between the groups, but to capitalize on the relationship between mother's education and the child's achievement in mathematics. As mentioned earlier, this is what makes ANCOVA more powerful than simple analysis of variance under the conditions illustrated in Figure 1-3.

When, as in the Followup Study, random assignment is not possible, there is concern that the experimental and control groups will not be equivalent with respect to all background variables which might be related to the outcome measures used in the study. In research design, this is a well-known problem referred to as that of the nonequivalent control group. Despite the attempt to match comparison families to Home Start families in each classroom, the Followup Study fell victim to this predicament. As

Figure 1-3

Illustration of Covariance Analysis Under Homogeneity of Regression and Equivalence of Covariable Means*



*E and C, the groups to be compared, do not differ with respect to their means on the covariate or the slopes of their regression lines. The distance between the regression lines is the same at any point along the covariable axis and is equal to the unadjusted difference in group means on the outcome variable ($\bar{Y}_E - \bar{Y}_C$). Covariance analysis is not required for adjustment of group means, although it may increase the power of the analysis by reducing the error variance.

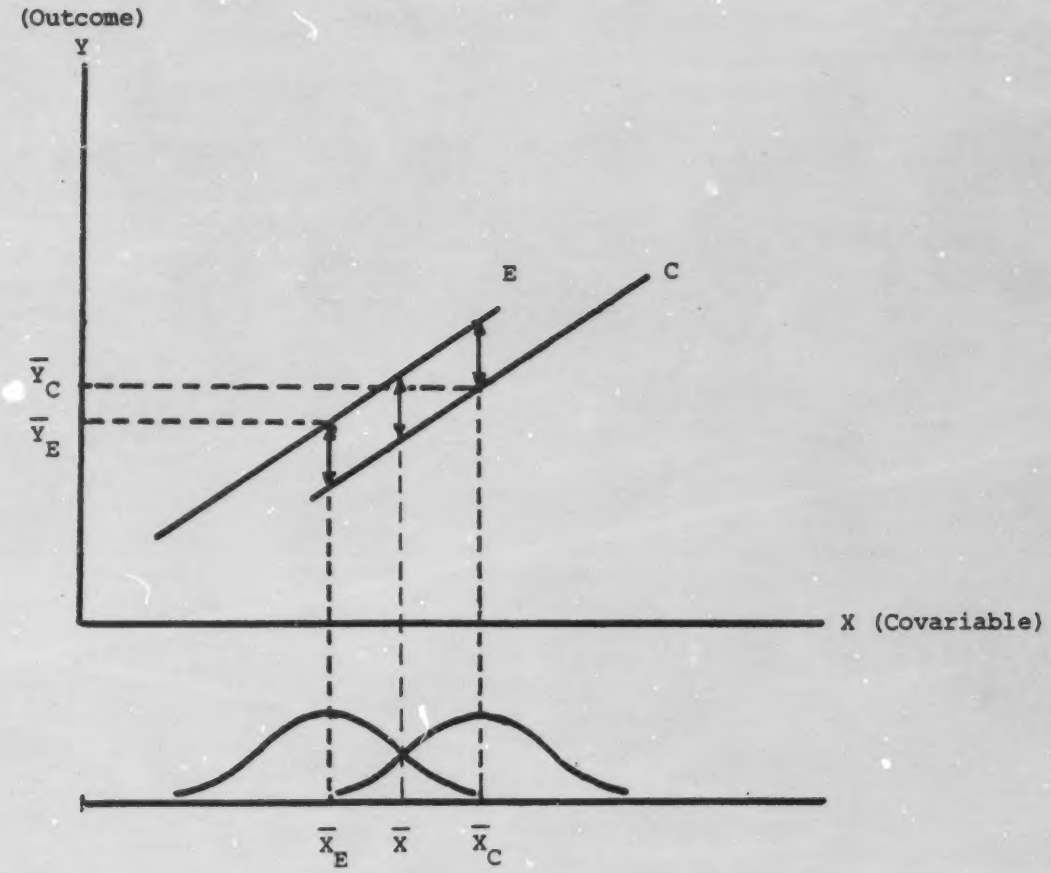
documented later, the comparison group score higher on the average than the Home Start group on education, income, rated health of the child, and several other variables which are related to the child test scores.

Figure 1-4 illustrates ANCOVA in the nonequivalent control group situation. The nonequivalence of the groups with respect to mother's education is illustrated by the distributions beneath the regression lines, in which $\bar{X}_C$ is not equal to $\bar{X}_E$. The estimated treatment effect, as in Figure 1-3, is the vertical distance between the regression lines, but this distance now represents a mean difference in math achievement which has been adjusted for the difference in education. Note, in fact, that the line for the experimental group is above that for the control group. This indicates a potentially significant positive treatment effect, despite the fact that the unadjusted math achievement m[illegible] in the control group ($\bar{Y}_C$) is higher than that for the experimental group ($\bar{Y}$[illegible]. Figure 1.4, therefore, illustrates a situation in which the correction f[illegible] nonequivalence would actually reverse the direction of the difference betw[illegible] the groups.

Note that the assumption of homogeneity of regression is met in Figure 1-4--the regression lines are parallel. The importance of this assumption lies in the fact that the distance between the regression lines is the same no matter where along the X axis it is measured. The magnitude

Figure 1-4

Illustration of Covariance Analysis Under Homogeneity of Regression, but Nonequivalence of Covariable Means*



*E and C differ in their means on the covariable, but not in the slopes of their regression lines. $\bar{X}$ is the covariable mean for the pooled groups. The arrow-head-to-arrow-head distance estimating the treatment effect is the same at any point along the covariable axis but is not equal to the difference in group means on the outcome measure ($\bar{Y}_E - \bar{Y}_C$). In fact $\bar{Y}_E - \bar{Y}_C$ is negative, while the treatment effect is positive; correction for nonequivalence reverses the direction of the mean difference in this illustration.

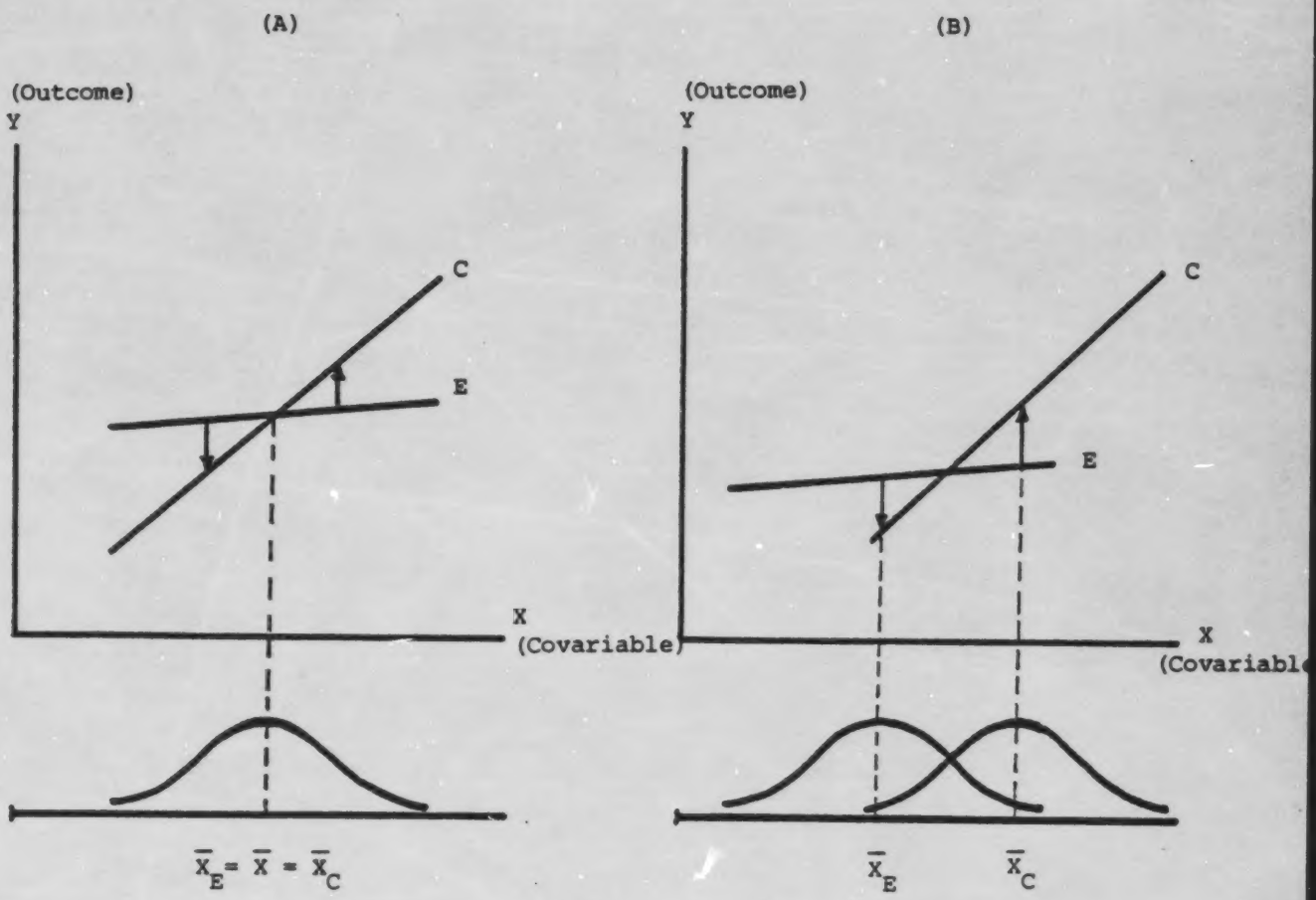
and direction of the estimated treatment effect does not depend (within the range studied) on the level of mother's education.

This is not the case for the situations in Figure 1-5, in which nonparallel regression lines indicate heterogeneity of regression. Situation (B), moreover, illustrates nonequivalent group means for mother's education, as well. It can be seen that both the magnitude and direction of the distance between the regression lines depends on the reference point chosen for the covariable. One would not be justified, however, in choosing even an arbitrary point in order to draw so-called "tentative" or "suggestive" conclusions about group differences. The reason is not merely that such a procedure is unduly arbitrary, but that the difference in regression slopes could itself have been an effect of treatment. If so, one would be as interested in the rotation of the experimental group's regression line as in its elevation--in both cases relative to the position of the line had the group never received the experimental treatment.

If group assignment was not random, however, then heterogeneity of regression thoroughly frustrates the hope of determining treatment effects because the status of the comparison group cannot be assumed to represent what would have happened to the experimental group had it not received the treatment. Ordinarily, the regression line for the comparison group is taken as the regression line under the null hypothesis, but this is precisely what is open to question when heterogeneity of regression and nonequivalence of covariate means are detected. The researcher knows

Figure 1-5

Illustration of Covariance Analysis Under Heterogeneity of Regression (A and B) and Nonequivalence of Covariable Means (B only)*



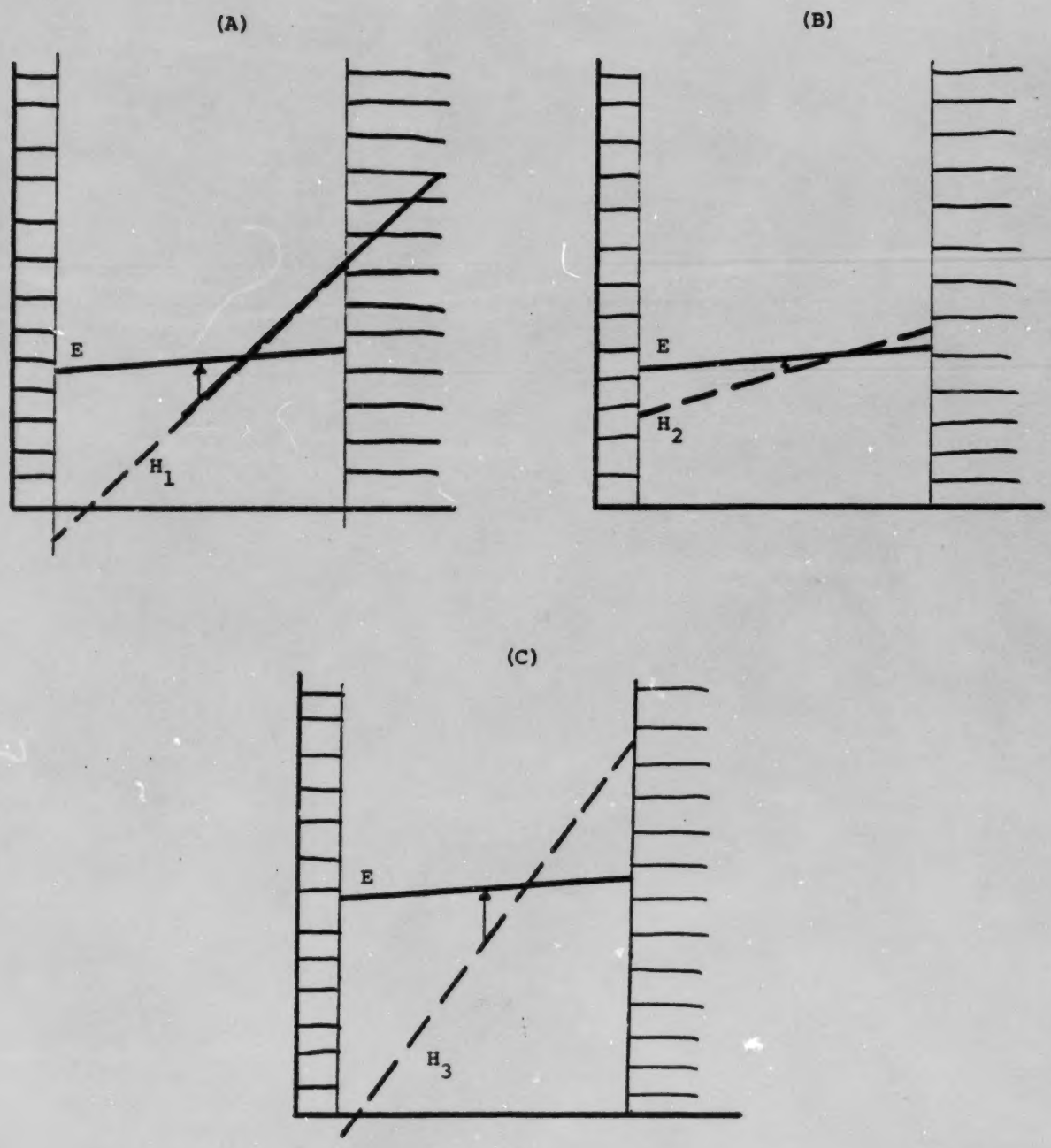
*E and C differ with respect to the slopes of their regression lines and (in B) with respect to their means on the covariable. There is no single, constant treatment effect; the magnitude and direction of the estimated effect depends on the reference point chosen for the covariable. Furthermore, the possibility that the difference in slope could itself be a treatment effect renders the assessment of program impact indeterminate, as explained in the text.

only that the slopes are different for the two groups, but has little basis for speculating what the slope would be under the null hypothesis. It could be steeper than that of the control group, shallower, or the same. In order to make a reasoned estimate, one would have to consider not only the nature of the covariable and the outcome variable, but also the potential difference between the populations which the experimental and control groups represent. When assignment to these groups has not been random, the uncertainties in developing such a rationale are considerable.

The reason why this is an especially severe problem in analysis of covariance is that the estimated treatment effect, which would be the distance between the lines at some arbitrarily chosen point on the covariate axis, depends upon the choice of slope. This is illustrated by the three situations in Figure 1-6. In situation (A), the comparison group's line has merely been extrapolated to cover the same distribution of covariate values exhibited in the experimental group. The arrow represents an estimated treatment effect conditioned on an explicit value for the covariable--in this case, the median for the experimental group. In situation (B), a shallower slope has been hypothesized and the treatment effect estimated for the same conditional value is smaller than in (A). In situation (C), a steeper slope is hypothesized and the estimated effect is larger. Moreover, these differences in estimating treatment effects have not

Figure 1-6

Estimated Conditional Treatment Effect for Three Regression Slopes Conceivable under the Null Hypothesis*



*In Situation (A), the hypothsized slope is that for the comparison group. In Situation (B) it is shallower than in (A), yielding a smaller estimated treatment effect, while in (C) it is steeper, yielding a larger estimated effect.

addressed the issues of (1) the elevation of the regression line under the null hypothesis and (2) the arbitrariness in conditioning estimation on one covariate value as opposed to another.

In essence, therefore, the problem posed by heterogeneity of regression and nonequivalence is that of uncertainty regarding the covariable model under the null hypothesis. Several competing hypotheses are conceivable, varying in their theoretical plausibility and attractiveness to the policy maker. In a post hoc research design, however, these hypotheses can neither be proven nor disproven; and treatment effects cannot be determined statistically.

Such is the predicament in which the Followup Study found itself. For each of the five test of child outcomes, heterogeneity of regression was detected between the Home Start and comparison groups and between the Home Start and Head Start groups. Outcome analyses for these contrasts, therefore, were limited to descriptive comparisons. Only the one-year vs. two-year Home Start groups escaped the heterogeneity problem, so that only for this comparison was the assessment of treatment differences possible.* Analyses of child outcomes are presented in Chapter 5, along with details of the analyses investigating the heterogeneity and nonequivalence problem. First, however, Chapter 2 will address the tracking of the original evaluation sample and results of sample attrition analyses. The selection of a Followup Study comparison group will be discussed in Chapter 3, and results of the parent outcome analyses are presented in Chapter 4.

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*Heterogeneity with respect to the child outcomes so clearly established the noncomparability of the Home Start and comparison groups and the Home Start and Head Start groups that parent outcomes, too, were limited to descriptive analyses.

References

Campbell, D.T., and R.F. Boruch. "Making the case for randomized assignment to treatment by considering the alternatives: six ways in which quasi-experimental evaluations in compensatory education tend to underestimate "effects", in C.A. Bennett and A. Lumsdaine (ed.) Evaluation and Experiment: Some Critical Issues in Assessing Social Programs. New York: Academic Press, 1975.

Campbell, D.T. and Stanley, J.C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally and Co., 1963

Cronbach, L.J., Rogosa, D.R., Floden, R.E., and Price, G.G. Analysis of covariance in nonrandomized experiments: parameters affecting bias. Stanford, CA: Stanford Evaluation Consortium, August, 1977.

Lazar, I., Hubbell, V., Rosche, M., and Royce, J. "The Persistence of Preschool Effects: A Long-Term Followup of Fourteen Infant and Experiments." Paper presented at Consortium on Developmental Continuity, Education Commission of the States, El Paso, TX: 1977.

Chapter II

FOLLOWUP STUDY SAMPLE

The feasibility of conducting a Home Start Followup Study depended to a large extent on the number of former Home Start evaluation families who could be successfully tracked. Sample sizes for the Followup Study had to be sufficiently large to conduct a meaningful long-term impact study. Small sample size, and the resulting lack of statistical power, make sound group comparisons very difficult. Although statistical power can be enhanced through the use of complex analytic techniques, it is preferred that the groups be kept as large as possible.

During the final data collection phase of the original Home Start evaluation which concluded in the spring of 1975, sample sizes were extremely small. Since more than a year had elapsed between the conclusion of the Home Start demonstration program and the startup of the Followup Study, attrition was expected to reduce even further the number of subjects in the Followup Study groups.

Careful tracking of families was therefore essential for the Followup Study. This was particularly the case since not all of the Home Start families in the original study received the same treatment. Some participated in Home Start for one year, while others had been enrolled for two.

In the sections that follow, the tracking process and its results are described. Next background information is provided about the Home Start and Head Start families and children who participated in the Followup Study. The last section of this chapter addresses issues relating to the representativeness of the Home Start Followup Study sample. Sample attrition effects are examined in this section by comparing the characteristics and outcomes for the attrited Home Start families with those for the Followup Study group. The chapter concludes with a discussion about Followup Study generalizability--that is, the extent to which findings from the Followup Study can be applied to other Home Start families who did not participate.

2.1 Family Tracking

At the conclusion of the Home Start evaluation in the spring of 1975, the sample consisted of 249 Home Start and 121 Head Start families. Samples ranged in size from a low of 25 Home Start families in Texas to a high of 57 in West Virginia. The Kansas and Ohio programs also had sample sizes with fewer than 40 subjects.

The Head Start comparison group was even smaller at the end of the evaluation, with sample sizes ranging from 11 in Arkansas to 30 in both Kansas and Ohio. These two urban sites represented the only one-year Head Start programs in the sample. Head Start families did not enter the evaluation in these two sites until the fall of 1974. This resulted in lower sample attrition than was incurred in sites with two-year Head Start programs.

Since an entire year had elapsed between the conclusion of the Home Start demonstration program and the startup of the Home Start Followup Study,

it was expected that there would be considerable further attrition from the sample of 249 Home Start and 121 Head Start families. Attrition during the course of the Home Start evaluation had been alarmingly high; over a two-year period, almost half the sample (49%) dropped out of the study.* Based on these figures, attrition from the Followup Study sample was estimated to reach at least 25 percent.

Since sample sizes at the conclusion of the original evaluation were small, it was decided to track families who had participated in the evaluation in the fall of 1974 (T3) but not in the spring of 1975 (T4) along with the spring of 1975 sample. This increased the tracking sample by 49 percent for the Home Start group and 38 percent for the Head Start group. Table 2-1 shows the distribution of the tracking sample for each of the six Home Start sites.

Table 2-1

Tracking Sample

	Home Start	Head Start	Total
Alabama	67	19	86
Arkansas	67	18	85
Kansas	55	39	94
Ohio	62	45	107
Texas	43	24	67
West Virginia	76	22	98
TOTAL	370	167	537

*Love, J.M., Nauta, M.J., et al. Home Start Evaluation Study, Interim Report VII: 20-Month Program Analysis and Findings. High/Scope Educational Research Foundation and Abt Associates Inc., 1976, p. 200.

Slightly less than half of the Home Start families (43%) had been enrolled in the program for two years. The remaining group had received Home Start program services for only one year. Of this group of one-year families, about half were part of the first-year control group before entering the program. The other families were recruited during the summer of 1974 to supplement the evaluation sample and compensate for sample attrition which occurred during the first year. The one- and two-year Head Start samples were about equal in size.

Several procedures were used to track families for the Home Start Followup Study. Shortly after the project was funded, letters were sent to all fall 1974 and spring 1975 participants in the Home Start evaluation. The letter informed families about plans for the Followup Study and requested information about the school the Home Start child attended and the child's current grade. After a period of four weeks, a followup letter was sent to parents who had not yet responded to the request for school and grade information. An incentive system was used to encourage parental response to this school survey, with each respondent receiving $5.00 for providing the requested information.

In addition, Home Start and Head Start programs at the six sites which had served the sample families were asked to assist in the tracking task. Former home visitors and other project staff in several sites had maintained contact with families after the demonstration program ended and offered to make personal visits to non-responding families. Staff were given a small stipend to cover transportation costs for each family they were able to track. This

approach was effective only in sites that were funded as Home Start Training Centers (Arkansas and West Virginia) or had on-going home-based programs.

With the assistance of local programs, 76 percent of the Home Start families could be tracked successfully to the children's current school. Only a very small group of Home Start families (13%) did not respond to the school survey and repeated attempts to obtain information. Another 8 percent of the Home Start families could not be tracked because they had moved away from the program's service area or had left no forwarding address. The remainder of the families (2%) indicated that they did not wish to participate in the Home Start Follow-up Study.

Tracking attempts were considerably less successful for the Head Start group, with a rate of only 64 percent. Non-response for this group was 19 percent. Another 15 percent of the families had moved and could not be located, and one percent refused to participate.

As is shown in Table 2-2, attempts to track families were most successful in the three rural programs (Alabama, Arkansas and West Virginia), largely the result of the support local project staff provided in locating families.

Table 2-2

Tracking Results
(Percents)

	Home Start	Head Start	Total
Alabama	84	63	79
Arkansas	88	72	85
Kansas	64	54	60
Ohio	65	53	60
Texas	56	79	64
West Virginia	89	82	88
Site Average	76	64	72

At the conclusion of the school survey, the Followup Study sample consisted of 282 Home Start and 107 Head Start families. The school survey information was used to make arrangements with local schools for the selection of a comparison group consisting of classmates of the Home Start children. This task is described in detail in Chapter 3.

Prior to startup of data collection in the spring of 1977, Home Start and Head Start families were recontacted about their participation in the Followup Study. In the six months that had elapsed between the time of the initial school survey and Followup Study data collection, some sample attrition occurred, as had been expected. About three-fourths of the Home Start families (71%) that had been successfully tracked agreed to participate in the Followup Study and were still using the same schools for their children. Attrition ranged from a low of 21 percent in Texas to a high of 42 percent in Ohio for the Home Start sample. Attrition was considerably higher for the Head Start group, averaging 57 percent for all six sites. It was highest in Texas (68%) and

lowest in Arkansas (36%). Sample attrition could have been reduced substantially had it been possible to collect Followup Study data in the fall of 1976 rather than the following spring. This was not feasible because study instruments required clearance by the Office of Management and Budget, a process which usually takes at least three months.

Overall attrition from the fall 1974 and spring 1975 samples totalled 46 percent for the Home Start group and 72 percent for the Head Start group. Although attrition was high for both groups, the Home Start group with 199 families was considered large enough for a meaningful study of long-term program effects. The Head Start group was much smaller with only 46 families. Nevertheless, this group was retained in the Followup Study, based on the rationale that Home Start-Head Start comparisons can produce potentially useful findings about long-term program impact. It was deemed important to assess whether differences exist between the two groups or whether the groups are comparable on parent and child outcomes. The latter finding would support the hypothesis that the two programs have the same impact on participants. Some analyses, however, such as attrition studies, were not carried out on the Head Start group due to small sample size.

Table 2-3 shows the distribution of the Home Start and Head Start Followup Study samples in each of the six sites. Approximately two-thirds (68%) of the Home Start families came from the three predominantly rural programs (Alabama, Arkansas and West Virginia). The Head Start sample was more evenly distributed across rural and urban programs. Most of the families in the

Followup Study sample (82%) had been part of the spring 1975 Home Start evaluation sample. Attempts to increase the Followup Study sample by tracking the fall 1974 families along with others thus had yielded only marginal results.

Table 2-3

Followup Study Sample

	Home Start	Head Start	Total
Alabama	42	7	49
Arkansas	43	8	51
Kansas	21	8	29
Ohio	23	8	31
Texas	19	6	25
West Virginia	51	9	60
TOTAL	199	46	245

2.2 Characteristics of Followup Study Children

About half of the Home Start families served by the six impact study sites were non-white. Urban programs served a predominantly minority population, while most rural program recipients were white. In contrast, only one-third of the Home Start children in the Followup Study sample (34%) were non-white, resulting from an uneven sample distribution across urban and rural sites. The ethnic background of the Head Start children in the Followup Study sample was about evenly divided between white and non-white (51%) because of a better sample distribution across sites.

The children's mean age on March 1 was 7.11 years for both groups. Home Start children ranged in age from 5.0 to 8.9 years. The age span was somewhat smaller for the Head Start group, with ages ranging from 6.3 to 8.2 years. The median age was the same as the mean for both groups. An examination of the ages of the two groups of children by school grade shows no age differences among the two groups that are statistically significant; in fact, the means by grade are almost identical for the two groups.

About one-fourth of the Home Start and Head Start children were first borns. Almost all of the children had other siblings. In the Home Start group, only 11 out of a sample of 199 were the only child; the percentage was slightly higher for the Head Start group (15%, or 7 out of a sample of 46).

Preschool Experience

All of the Followup sample children had participated in either one or two years of Home Start or Head Start prior to entering school. Table 2-4 shows that the one- and two-year Home Start groups were almost equal in size. The uneven distribution of Head Start families across the one- and two-year groups reflects the fact that two-thirds of the programs enrolled families for two years. Only Kansas and Ohio served Head Start families for a period of one year.

Table 2-4

Participation in Home/Head Start
(Percents)

	One Year	Two Years
Home Start	52.0	48.0
Head Start	37.2	62.8

A small group of Home Start children had been involved in preschool programs other than Home Start. Participation in other preschool programs was considerably higher for Head Start children, as is illustrated in Table 2-5. Group differences were not found to be statistically significant, however. Higher participation in other preschool by Head Start children was largely due to the fact that almost half of the Head Start mothers (46%) were working, primarily at full-time jobs, and had enrolled their children in programs other than Head Start in order to meet their child care needs. There were considerably fewer working mothers in the Home Start group; less than a third (31%) had jobs. (Group differences in terms of work status of mothers were not significant, probably due to a small N for the Head Start group.)

Table 2-5

Participation in Other Preschool
(Percents)

	Home Start	Head Start
N	162	32
Nursery School	3.1	3.1
Day Care	4.3	12.5
Other Preschool	9.3	20.7

Altogether, Home Start children had received an average of 16.6 months of preschool (including Home Start), with a standard deviation of 13.845. Head Start children had been involved in preschool programs for a longer period of time, averaging 22.5 months (S.D. = 21.338). The median for both groups was considerably lower than the mean--12.4 months for Home Start and 18.0 for the Head Start group. The difference in means was found to be statistically signficant at the .05 level of probability (F = 4.023).

School Entry and Grade

About three-fourths of the Home Start children were either in first grade (50%) or second grade (24%) at the time they participated in the Home Start Followup Study. Most of the Head Start children (82%) were in first grade. Grade information for the two groups of children is presented in Table 2-6.

Table 2-6

Child Grade
(Percents)

	Home Start	Head Start
N	199	46
Kindergarten	13.6	4.5
First Grade	49.7	81.8
Second Grade	23.6	11.4
Third Grade	13.1	2.3

Over half of the Home Start children (57%) started their schooling in kindergarten. For the Head Start group, this was the case for 64 percent of the children. At the time the sample children entered school, few kindergarten

programs were in operation in two of the six states, Alabama and Arkansas; most children in these states started as first-graders.

2.3 Family Characteristics

Total household size for the Home Start group averaged 5.7 members, with a standard deviation of 2.19. Households ranged in size from 2 to 16 people for this group. Head Start families were somewhat smaller in size, averaging 5.0 members, with a standard deviation of 1.87. Median household size was smaller for both groups than the mean (5.3 and 4.9 members respectively for the Home Start and Head Start groups). Group differences were found to be statistically significant at the .04 level ($F= 4.256$). In 11 percent of the Home Start and 13 percent of the Head Start families, relatives such as grandparents, aunts or uncles were considered part of the household.

More than half of the Home Start children (58%) came from two-parent families. For the Head Start group, this was the case for only 40 percent of the children. These differences also were statistically significant at the .04 level ($X^2=4.055$).

In terms of location of family residence, a significantly higher percentage of Head Start families (81%) lived in a town or city. Over half of the Home Start families (52%) resided in more rural areas at least 2 1/2 miles from the nearest town. This difference was statistically significant ($p=<.001$, $X^2= 13.192$). About half of the Home Start and Head Start families were homeowners.

A large percentage of the families had access to a car, either their own or one they could borrow when necessary. This was the case for 76 percent of the Home Start and 82 percent of the Head Start families. Most Head Start families (91%) also had a telephone at home, compared with only 69 percent of the Home Start group. Statistically significant differences were found only in terms of availability of a telephone, favoring the Head Start group ($p=.004$; $X^2=8.185$). These group differences confirm findings of the original Home Start evaluation which showed that the Home Start group lived in more isolated circumstances than the Head Start comparison group. Chapter 4, on Parent Measures, explores the issue of family isolation in greater depth.

Family Income and Employment

About two-thirds of the Followup Study families reported that one or more members of the household were employed and helped to support the family. Unemployment was 30 percent for the Home Start group and 36 percent for Head Start families. These differences were not statistically significant.

Household income from all sources was approximately the same for the two groups, as is shown in Table 2.7. Families received average annual incomes of slightly over $5,000 ($5,100 for HMS and $5,238 for HDS), or a median income of from $4,001 to $6,000. Family incomes for both groups ranged from under $4,000 to over $16,000 per year; the mode for income was under $4,000. Per capita income was slightly lower for the Home Start group. Group differences were not found to be statistically significant.

Table 2-7

Family Income*

	Home Start	Head Start	F	p	Summary
Current Total Family Income (N)	194	44			
Mean	2.545	2.619	0.062	.803	NS
S.D.	1.764	1.840			
Median	2.000	2.012			
Family Income Two Years Ago (N)	194	44			
Mean	1.970	2.136	0.545	.461	NS
S.D.	1.291	1.622			
Median	1.674	1.591			
Per Capita Income (N)	192	44			
Mean	0.521	0.597	0.936	.334	NS
S.D.	0.464	0.482			
Median	0.334	0.435			

About half of the Home Start families (48%) reported income from one job and 22 percent from two jobs. For the Head Start group, 41 percent had one income and 22 percent received income from two jobs. In about one-third of the Home Start families (31%), mothers were working. Mother employment was somewhat higher for the Head Start group, with 46 percent reporting they were working, mostly at full-time jobs.

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*Figures were computed using the following income categories: (1) under $4,000; (2) $4,001 to $6,000; (3) $6,001 to $8,000; (4) $8,001 to $10,000; (5) $10,001 to $14,000; (6) $14,001 to $16,000; (7) over $16,000.

Nine percent of the Home Start mothers reported that their jobs provided the only family income from employment. The incidence of mothers providing sole support for the family was twice as high for the Head Start group (20%). This group difference was found to be statistically significant at the .06 level (X^2=3.694). This can be attributed to the fact that there were more single-parent families among the Head Start group than among Home Start families.

To supplement family income, several families used some form of public assistance such as Medicaid, welfare, food stamps or public housing. Public assistance was used by 58 percent of the Home Start and 62 percent of the Head Start families. While usage was higher for the Head Start group, these differences were not found to be statistically significant. Table 2-8 shows use of different forms of public assistance by the two groups of families.

Table 2-8

Use of Public Assistance
(Percents)

	Home Start	Head Start
Welfare	33.5	42.2
Medicaid	29.4	35.6
Food Stamps	46.1	40.0

Educational Attainment

The average number of years of education completed by Home Start mothers was 10.01 years, with a standard deviation of 2.09. Head Start mothers rated slightly higher in terms of educational attainment, with 11.18 years of schooling (S.D. = 2.41). Only one-third of the Home Start mothers (34%) completed high school or went beyond. This proportion was much larger (55.4%) for

Head Start mothers. The relatively low educational attainment of the Home Start mothers is reflected in the fact that 27.8 percent received only an eighth grade education or less; this was the case for 6.6 percent of Head Start mothers. Table 2-9 provides information about the highest grade of school mothers in the two groups completed.

Table 2-9

Mother's Education
(Percents)

	Home Start	Head Start
N	194	45
Less than 8th Grade	10.8	4.4
Grade School (8th Grade)	17.0	2.2
Some High School	38.1	25.8
High School Graduate	29.4	44.4
Some College	4.6	4.4
College Graduate	0.0	2.2
Graduate School	0.0	4.4

In addition to reporting on the highest grade of school completed, mothers were asked if they had received any other kind of training. Fifteen percent of the Home Start and 24 percent of the Head Start mothers indicated that they had. Over one-third of the families did not specify what type of training they had received. Among those who did so specify, Home Start mothers had attended (in rank order) business school, college classes, or technical school or participated in a job training program. Among the Head Start mothers, technical school and job training ranked highest. At the time the Followup Study took place, a small number of families (5% for Home Start and 7% for the Head Start group) were enrolled in training programs.

The educational attainment of other wage earners in the family was lower than the mother's for the Home Start group. It was slightly higher for other wage earners in Head Start, as is noted in Table 2-10.

Table 2-10

Educational Attainment
of
Mothers and Other Wage Earner

	Home Start	Head Start	F	p	Summary
Mother's Education					
N	194	45			
Mean	10.005	11.178	10.845	.001	HMS<HDS
S.D.	2.090	2.405			
Median	10.293	11.625			
Education of Other Wage Earner (N)	115	20			
Mean	9.313	11.850	12.869	.001	HMS<HDS
S.D.	3.059	1.872			
Median	9.636	12.000			

Significant group differences also were found when the highest education of two wage earners (or mother and wage earner) were computed for the two groups of families. Home Start families, with a mean educational attainment of 10.5 years, rated lower than Home Start families, with 11.4 years of formal schooling. Standard deviations for the two groups were 2.1 (HMS) and 2.5 (HDS). Differences were statistically significant at the .01 level of probability (F=6.695).

Summary

The foregoing discussion clearly shows that the two groups are in some respects non-comparable. In terms of child characteristics, significant group differences were detected on two variables: ethnicity, with the Head Start group having higher minority representation ($p=.06$), and length of pre-school experience, favoring the Head Start group ($p=.05$).

On variables which determine the socio-economic status of families (income and education), comparability of the two groups was mixed. Significant group differences were found in terms of educational attainment, with the Head Start group rating higher ($p=<.01$). Family and per capita income, on the other hand, were comparable for the two groups.

The groups differed on a number of other family characteristics: total household size (HMS>HDS, $p=.04$), single-parent status (HMS<HDS, $p=.04$), sole support of the family (HMS<HDS, $p=.06$), family location, with a larger percentage of the Head Start families residing in a town or city ($p=<.01$), and availability of a telephone (HMS<HDS, $p=<.01$).

These group differences mandate cautious interpretation of the findings which are presented in subsequent chapters of this report. In addition, it should again be noted that statistical power to detect group differences is extremely low given the small sample size of the Head Start group.

2.4 Sample Attrition Effects

The next question to be addressed is the extent to which the group of Home Start families who participated in the Followup Study are comparable to the original Home Start evaluation families who did not. This addresses the question of the generalizability of the Home Start Followup Study results. If attrition or followup is selectively related to any characteristics of the initial Home Start Evaluation sample, this effectively limits the generalizability of Followup Study results to the population of Home Start participants represented by the Followup Study sample (which, in turn, is but a subpopulation of that represented by the initial evaluation sample). If, on the other hand, attrition (or followup) appears to be random, or unrelated to any important characteristics of the initial evaluation sample, the Followup Study results could be generalized to the population represented by the initial evaluation sample.

Selective attrition did occur, as is demonstrated in the attrition tests which are presented below.

Methods and Approach

Researchers, in the absence of any considerations of statistical power, have a tendency to use a very small alpha level in an attempt to make statistical tests fail. Simply put, the cost of wrongly rejecting a null hypothesis is typically assumed to be high, so the likelihood of wrongly rejecting it is typically set very low (at p's of .01 or .05 or possibly .10).

In the case of attrition, however, the cost of failing to reject an incorrect hypothesis may be high (a Type II error), risking the possibility that tests of program effects are contaminated by selective attrition or followup. In the absence of power considerations, therefore, it was deemed reasonable to relax attrition test criteria by considering alpha levels of .15 or perhaps even .20.*

When testing more than one variable, or using multiple variables in testing essentially one hypothesis, typical univariate testing procedures are inappropriate.** Frequently, for instance, multiple measures of outcomes are used, without discriminating between them in formulating tests for evaluating a program's performance (e.g., fine and gross motor skill tasks, school readiness tests, a behavioral inventory, and an observation checklist). That is, the finding of "significant effects" on any one will be treated as sufficient cause for rejecting the null hypothesis.

There are essentially two approaches to undertaking multivariate inferential tests. One is to develop truly multivariate tests (e.g. MANOVA, Hotellings's T^2). This approach is often neglected, due to assumptions that may be thought untenable, lack of appropriate computer software, and/or

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* The use of such alpha levels increases the risk of a Type I error (when the hypothesis is true but rejected) with odds ranging from 1-in-7 to 1-in-5.

**This is stated without proof; most multivariate tests address this problem. For illustration: ten tests each done at the .05 level actually permit a 40 percent chance of wrongly rejecting the null hypothesis; each done at the .10 level, there is a 65 percent chance; with 20 tests, each at the .05 level, one has a 64 percent chance of wrongly rejecting the null hypothesis; with 20 such tests at the .10 level, the likelihood of error reaches 88 percent.

difficulties in interpreting the results of such global tests. The second approach is to control the probability of wrongly rejecting individual (univariate) hypotheses such that the overall (multiple, simultaneous) Type I error rate is controlled appropriately.* The latter approach is used in examining attrition effects for the Home Start Followup Study. All p-values (or "attained significance" values) reported in this section are simultaneous, joint, or multiple test values, rather than univariate values.

For multiple or simultaneous testing situations, delineation of appropriate sets or groups of variables is not immediately evident. In the case of attrition, for instance, one might treat all tests as tests of one null hypothesis. This procedure might be viewed as too general or broad. Instead, variable domains (e.g. child outcomes, SES, and home environment) each might be considered separately.

In a study where longitudinal data have been collected, there is the additional problem of choosing the most appropriate time point at which tests ought to be done. Prima facie, baseline data provide an appropriate time point for sample attrition tests. In a study which assesses long-term program

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Let 'a' be the overall (simultaneous) probability of making a Type I error, 'a' be the probability for an individual test, and 'k' be the number of tests done. When these tests are independent, the following relationship holds:

$$a = 1 - (1 - a^*)^k$$

Given either a or a*, the other can be calculated for various values of k. When the k tests are not independent (and in most social science applications, they will not be independent), the mathematical relationship above offers a ceiling to the actually obtained simultaneous probability of making a Type I error. In the absence of a truly multivariate test, this is still adequate for most hypothesis testing applications since it errs in the conservative direction.

effects, however, "exit scores"--data collected upon completion of the program --may be more appropriate for Followup Study attrition tests, based on the argument that the "starting" sample ought to consist of only those children and families who completed the program.

Selection of an appropriate time point for attrition tests was further complicated by the use of a delayed entry (one year) group of families. Attrition tests could be conducted separately for each entry-point group of families, although this would reduce sample size and result in a loss of statistical power. An alternative strategy that was used for this study was to ignore the point of entry distinction when testing for differences in means of the attrited and retained groups of Home Start families.

Two sets of attrition tests were conducted. The first was the most conservative test, covering all variables at all time points for which they were available. Using this criterion, 220 univariate tests of the null hypothesis were undertaken. Another set of tests grouped variables by domain (child tests, 8-Block measures, demographics, SES, home environment, and families' reported use of particular social services), testing for selective attrition within domains. These tests also considered all available variables at all time points.

Results of Sample Attrition Tests

The most stringent test of attrition effects (i.e., simultaneous tests over 220 variables) was rejected quite soundly. About 68 percent of the Home Start families who attrited from the Followup Study sample lived in urban areas, whereas only 43% of the Followup Study participants did ($p < .001$).* Home Start families in the Followup Study sample have proportionately fewer users of welfare and Medicaid as of fall 1973 ($p = .024$ and .043 respectively), and of Medicaid as of spring 1974 ($p = .010$).

In terms of outcomes for children, the Home Start Followup Study sample scored higher on different tests than did children who had attrited from the sample. In the fall of 1973 and spring 1974 testings, a language skills test (DDST) provided the greatest contrast ($p = .118$, .060), whereas in the fall of 1974 scores on the Preschool Inventory (PSI) showed a difference ($p = .007$). In the spring 1975 "exit scores," attrited children scored lower on an inventory of task orientation as well as on the PSI ($p = .092$, .149).

In the second series of tests, using variable domains, the null attrition hypothesis must also be rejected for those variables mentioned above. It should be noted, that the tests within domains were less stringent and conservative.

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*Data from the original evaluation were used on the family location variable rather than data from the Followup Study Parent Interview. This explains the discrepancy of figures presented in Sections 2.3 and 2.4 on this variable.

Among demographic variables, the contrast in percentage of families living in an urban area was again significant ($p<.001$). SES differences were also existent, with the Home Start Followup Study sample scoring higher on a "universal covariate" ($p=.052$). In the use of services, more of the attrited sample reported using welfare and Medicaid as of fall 1973, and Medicaid as of spring 1974 ($p=.008$, .014, and .003 respectively).

Tests of children showed the Followup Study sample scoring higher on a number of tests at a number of testing points: language skills at fall 1973, spring 1974, and fall 1974 ($p=.020$, .010, and .041); Preschool Inventory at fall 1974 and spring 1975 ($p=.001$, .026); and a behavioral inventory of task orientation at spring 1975 ($p=.016$). In terms of home environment, Followup Study families showed more books in the home as of spring 1975 and a lower "mothers's involvement" score as of spring 1974 ($p=.037$, .131).

Summary and Conclusions

It is evident from this discussion and the statistics presented in Table 2.11 that urban families are disproportionately missing from the Followup sample, and that those who participated in the Followup Study differ in a number of other ways from families who attrited. These differences can be summarized as follows:

Table 2-11

Home Start Sample Attrition Results

		Attrited Group			Home Start Followup Study Sample			p_1[a]	p_2[b]
		x	sd	n	x	sd	n		
DEMOGRAPHICS (22)									
% Urban	F73	.628	.468	261	.428	.497	138	<.001	<.001
100									
SES (4)									
"Univ. Cov."[c]		-.283	2.10	233	.223	2.12	134	.948	.052
USE OF SERVICES (72)									
Welfare	F73	.496	.500	256	.303	.461	142	.024	.008
Medic.	F73	.307	.462	257	.140	.348	143	.043	.014
Medic.	S74	.330	.471	176	.135	.343	141	.010	.003
CHILD TESTS (36)									
SBI-TO	S75	18.91	4.36	128	20.48	3.71	165	.092	.016
DLANG	F73	25.37	4.13	245	26.80	4.10	137	.118	.020
DLANG	S74	28.12	4.42	172	29.80	3.94	133	.060	.010
DLANG	F74	28.94	4.21	170	30.28	4.05	182	.227	.041
PSI	F74	13.40	5.65	153	16.07	6.20	164	.007	.001
PSI	S75	18.45	5.87	118	20.77	5.97	150	.149	.026
HOME ENVIRONMENT (32)									
NBOOKS	S75	3.75	1.32	128	4.22	1.28	165	.207	.037
MO.INV.	S74	10.67	2.43	174	9.96	2.33	140	.620	.131

a. over 220 tests

b. over tests within domains

c. this is a one-time-point-only measure

- Followup Study children scored higher on cognitive tests (PSI and Denver Language).
- Followup Study families tended to have more books at home.
- The group of families that participated in the Followup Study had proportionately fewer users of welfare and Medicaid.
- Only one indicator of possible SES differences were found on a "universal covariate".
- No significant differences between the groups were found on 8-Block, health status, and child characteristics (age, height, and weight).

Two issues must be considered in attempting to understand the potential importance of selective attrition for analysis purposes. The first, and most commonly addressed, is that of bias in any estimates of outcomes or "effects." The second is that of generalizability of findings. Taking the latter first, it is clear that the disproportionate representation of rural families in the Followup Study sample limits the generalizability of any Followup Study findings: their applicability to more urban samples of Home Start families simply cannot be demonstrated. On the other hand, it is also not possible to prove their non-applicability.

With respect to the biasing issue, however, the impact of the selective followup is not clear. In the Home Start Followup Study, selective followup of families was evident; however, the comparison group was matched to the extent possible <u>post hoc</u>. Since there was no <u>initial</u> comparison group, it is impossible to assess the extent of bias--if any--in impact measures deriving from Home Start contrasts with the comparison group in the Followup Study.

CHAPTER III

COMPARISON GROUP SELECTION

One of the main objectives of the Followup Study was to determine whether children who participated in Home Start had an easier transition and achieved greater social competency in school than a group of children without formal preschool experience. The original control group of the Home Start evaluation could not be used for purposes of this examination, since the families had entered the program after one year in the control group. It was therefore necessary to select a new comparison group that was as similar as possible to the Home Start group. Similarity in terms of socioeconomic status was an important selection criterion because measured differences in outcomes between the groups could not otherwise be readily attributed to the Home Start program.

In the planning stages of the project, it was decided that study objectives could best be achieved by selecting a comparison group from the same classrooms the Home Start children attended. Thus, the two groups of children would have been exposed to the same school experience, and group differences could more easily be attributed to the Home Start program rather than to differences in elementary school experience. The approach of using classrooms with Home Start children for comparison group selection purposes also increased the likelihood of obtaining groups that were comparable in terms of socio-economic status, since children in the same classroom frequently share similar backgrounds.

The sections that follow address various aspects of the comparison group selection task. First, the process that was used to select the comparison group for the Followup Study is described. Next, child and family characteristics of the Home Start and comparison groups are presented. This is followed by a detailed discussion about the extent to which the two groups are comparable.

3.1 Comparison Group Selection Process

In order to select a comparison group for the Home Start Followup Study, it was necessary to obtain the cooperation of schools attended by Home Start children who were successfully tracked. This task was complex because of the large number of schools involved and because of increasing reluctance on the part of schools to participate in evaluation studies. Yet school support was critical to the success of the Followup Study, since schools represented the only mechanism through which contact could be made with potential comparison group classmates of Home Start children.

Site Development

A number of site development activities were undertaken in order to gain the cooperation of schools with Home Start children. First, study plans and instruments needed to be reviewed and approved by the Committee on Evaluation and Information Systems (CEIS). CEIS, a national group consisting of

representatives of state Departments of Education, was formed in 1972 to regulate the flow of requests for data and to provide some control over data collection activities involving schools and/or school personnel. CEIS support is critical in terms of gaining cooperation from local schools.

Original data collection plans called for local school involvement in four study tasks:

1. identification of classrooms with Home Start children;

2. distribution of letters, parent permission forms and family background questionnaires to all pupils in target classrooms for comparison group selection purposes (direct contact with parents was not feasible because of provisions in the Privacy Act which prohibit schools from supplying information about pupils without parent consent);

3. collection of child data on school premises; and

4. completion of teacher ratings on Home Start and comparison group children.

The CEIS review, which took place in the Fall of 1976, resulted in some minor modifications in data collection plans for the study. CEIS recommended that school cooperation be obtained in two stages. First, schools would be asked to assist in tasks 1 and 2, relating to the selection of a comparison group. Once a comparison child had been chosen for the Followup Study, schools would be asked to approve plans for the collection of data on target children.

Following CEIS review and approval of study plans, contact was made by the ACYF Project Officer and AAI Study Director with Education Commissioners and CEIS Coordinators in the six states that were involved in the Followup Study. State approval for the study was obtained for all six sites. Some state departments went beyond approval of study plans and provided a high level of support in study implementation. They made contact with local school districts on the study's behalf and requested school cooperation.

Local School Participation

The last step in the site development process was to make contact with local school districts and schools. This was done by letter with a followup telephone call by key study staff. In a few cases, on-site visits were required to obtain school district cooperation.

Obtaining cooperation from local schools and school districts was by far the most time-consuming site development task because of the large number of schools involved. A total of 54 school districts and 143 schools were asked to assist with study implementation. The number of school districts ranged from two in Ohio to 20 in Arkansas. In terms of schools, Texas had the smallest number (10) and West Virginia the largest (41).

Over two-thirds of the 143 schools (69%) agreed to participate in the initial stages of Followup Study implementation, involving the identification of target classrooms and the distribution of parent letters. Eighteen percent of

the schools refused to become involved in the study. Some school principals felt it would require too much time on the part of teachers and interfere with regular classroom activities; others feared that parents might be offended by the questionnaire which accompanied the letter, requesting information about the socio-economic status of the family. Another 13 percent of the schools did not participate for other reasons. In a few cases, the child had moved and was no longer enrolled in the school.

As is shown in Table 3-1, efforts to obtain school cooperation were least successful in Texas, where seven of out ten schools refused to participate in the study and one was excluded for other reasons. The highest rates of school participation were obtained in Ohio (19 of 21) and in West Virginia (32 of 41). This high level of cooperation in these two sites was largely the result of strong State Department of Education support for the Followup Study.

Table 3-1

Level of School Participation

	Alabama	Arkansas	Kansas	Ohio	Texas	West Virginia	Total
Number of School Districts	8	20	7	2	7	10	54
Number of Schools	21	24	26	21	10	41	143
Refusals	3	6	5	1	7	4	26
Number of Schools Excluded for Other reasons	4	2	5	1	1	5	18
Number Participating Schools	14	16	16	19	2	32	(99%)

Due to lack of school cooperation, there were 40 Home Start children (20% of the total sample of 199) for whom no comparison group child could be selected. This was the case for 15 Home Start children in Texas, 7 in Arkansas, Kansas and West Virginia, for 3 in Alabama and 1 in Ohio. Even though no comparison group children could be selected for these 40 children, the decision was made to include them in the Followup Study in order to provide as comprehensive a descriptive picture as possible of the Home Start families who were successfully located.

Identification of Target Classrooms

Once schools had agreed to assist with study implementation, AAI staff in each of the six Home Start communities visited, each of the schools and met with school personnel. The meetings were designed to identify classrooms with Home Start children, to roster these target classrooms, and to distribute parent letters. Special information packets were distributed at the meeting to acquaint school personnel and teachers with study objectives and data collection plans.

Parent Survey

The parent survey was designed to obtain parental permissions from all classmates of Home Start children, as well as information about the child and about the socio-economic status of the families. A brief questionnaire was developed for the parent survey which elicited such information as the age, sex,

ethnicity, birth order, and preschool experience (of the child). Information also was obtained about the education and employment of parents, single- vs. two-parent family status, total household size, and annual income.

A number of items were included in the questionnaire which provided information about the socio-economic status of the family at the time Home Start parents had entered the program. These retrospective questions were added in order to avoid matching the two groups on variables that might have been affected by the Home Start program. For example, since Home Start referred parents for job training and helped them find employment, it is possible that the program may have affected the economic status of the family. If Home Start parents were found to be better off than they were when the program began, then matching on current income would be misleading in that it would obscure group differences and gains that were made. It was recognized, however, that reliable retrospective data about socio-economic status would be difficult to obtain in a survey conducted by mail.

The family background questionnaire was distributed not only to potential comparison group families, but also to the Home Start and Head Start group in order to update baseline information that was obtained during the course of the original evaluation. Reliability of retrospective SES data could not be checked since no baseline income data existed for the two study groups.

Selection Criteria

Data from the family background questionnaire formed the basis for selecting a comparison group that was matched on as many variables as possible to the Home Start group. Since it was unlikely that a perfect match could be obtained in most classrooms, priorities had to be established for variables on which the two groups should be matched. The most important criterion for selecting comparison group children was deemed to be non-participation in a preschool program. It was essential that these children's experiences during their preschool years contrast as much as possible with those of the Home Start children, so that different outcomes could be hypothesized for the two groups. Next, families were matched on socio-economic status (per capita income and mother's education) and finally (to the extent possible) on child characteristics such as age, sex, ethnicity and birth order.

Response to Parent Survey

The response rate to the parent survey was extremely low, averaging only 28 percent of all pupils in target classrooms. In an attempt to increase the overall response rate, followup parent surveys were conducted in several target classrooms, yielding only marginal results. Unfortunately, no in-person followup was feasible since parent names and addresses could not be obtained from the schools. Parents were asked to contact AAI on-site staff if they had any questions about the study or the family background questionnaire.

As noted in Table 3-2, the response rate ranged from a low of 23 percent in Kansas to a high of 40 percent in Texas. (It should be noted, however, that only a very small number of schools participated in the parent survey in the Texas site.) Of the 956 parents who responded to the parent survey, 30 percent were not willing to participate in the Followup Study. This reduced the overall rate of positive responses to approximately 20 percent for the six sites combined.

Table 3-2

Response to Parent Survey

	Total # Pupils	Response Rate (%)	Parent Refusals* (%)
Alabama	716	24%	37%
Arkansas	706	32%	36%
Kansas	459	27%	30%
Ohio	584	23%	13%
Texas	77	40%	35%
West Virginia	880	30%	29%
TOTAL	3,422	28%	30%

*Percent of parents who responded to parent survey.

The study was faced not only with a low response rate to the parent survey and a relatively high refusal rate among those who responded; it soon became evident that most of the potential comparison group children (72%) had in fact participated in a preschool program. This ranged from a low of 64 percent

of the children in West Virginia schools to 82 percent in Ohio. In some classrooms, there was a total absence of children without formal preschool experience. In these cases, the child with the least involvement in a preschool program was chosen, such as summer Head Start or short-term day care. As noted in the next section, approximately one-third of the comparison group children who participated in the Followup Study had attended some preschool program, though the median length of attendance was only 3 months.

The comparison group consisted of 137 children. No comparison group child could be selected for 62 Home Start children, or 29 percent of the total Home Start sample. In 40 cases (as noted earlier), this was due to refusals on the part of schools to participate in the Home Start Followup Study. For the remaining 22 Home Start children, no comparison child could be selected because of non-response to the parent survey or non-availability of children with no or only minimal preschool experience. This was a problem in three sites --Alabama, Arkansas and Ohio.

All analyses of child outcomes and some parent interview analyses of school-related variables required a paired Home Start-comparison group sample in order to keep school experience unconfounded. The paired sample consists of 141 Home Start children and 137 comparison group children. (The Home Start group is slightly larger than the comparison group because there were four classrooms in which two Home Start children were paired with a single comparison child.) Table 3-3 shows the distribution of families in this paired sample by site.

Table 3-3

Paired Samples by Site

	Home Start	Comparison Group
Alabama	34	31
Arkansas	30	29
Kansas	14	14
Ohio	16	15
Texas	4	4
West Virginia	43	44
TOTAL	141	137

3.2 Group Comparability

Several characteristics of the paired sample of Home Start and comparison group children were examined to determine the extent to which the two groups are comparable. The sections that follow describe key child and family characteristics of the two groups and highlight group differences that were found to be statistically significant at the .01 level of probability.

Child Characteristics

In terms of child characteristics, the two groups were compared on age, ethnicity and preschool experience and were found to be comparable on age and ethnicity. These findings are summarized in Table 3-4.

Table 3-4

Child Age and Ethnicity

	Home Start	Comparison Group	F	p	Summary
Child Age (N)	120	135			
Mean	7.135	7.105	0.093	.760	NS
S.D.	0.711	0.832			
Median	7.160	7.034			
Ethnicity (N)	133	116			
White (%)	69.9	78.4	1.913 (x^2)	.167	NS
Non-White (%)	30.1	21.6			

As intended by the study design, there were significant group differences in the children's preschool experience. The objective of selecting a comparison group with no substantial preschool experience was achieved to a large extent: over two-thirds of the comparison group children (69%) had not attended preschool prior to entering public school and those who attended did so for a median time of only 3 months. Group differences in preschool attendance are summarized in Table 3-5.

Table 3-5

Preschool Experience

Preschool Attendance	Home Start	Group	F	p	Summary
Children with Preschool (N)	121	137			
(%)	100.0	31.4	120.454(x^2)	<.001	HMS>COMP
Participation in:					
• Head Start, Home Start, Day Care or Nursery School					
(N)	119	137			
(%)	100.0	19.7	155.265(x^2)	<.001	HMS>COMP
• Other Preschool (N)	119	133			
(%)	7.6	15.0	2.751(x^2)	.097	NS
Length of Preschool Experience (months)					
• Those Attending (N)	119	43			
Mean	14.882	6.930	16.107	<.001	HMS>COMP
S.D.	11.781	9.080			
Median	12.200	3.000			
• Total Paired Sample					
(N)	121	137			
Mean	14.636	2.270	115.847	<.001	HMS>COMP
S.D.	11.837	6.002			

Family Characteristics

The paired groups were also compared on a number of variables in order to determine comparability in terms of socio-economic status and other family characteristics. As noted earlier, the attempt to ensure comparability by matching on background variables was seriously hampered by non-response to the parent survey and the availability of only a small group of children with no or only minimal preschool experience. As a result, the groups were in most respects non-comparable, which seriously complicated the analysis of child outcomes. The results of these comparability analyses and the consequent complications are addressed in Chapter 5.

It is not clear, however, whether a more comparable comparison group could have been found in target classrooms if overall response to the parent survey had been better. It is possible, for example, as Home Start program staff indicated during the course of the original Home Start evaluation, that the Home Start children came from families with lower socio-economic status than their classmates who served as potential comparison group children. Another hypothesis is that families similar in terms of SES to the Home Start group took advantage of their eligibility for Home Start or Head Start and enrolled their child in one of these programs, thus rendering unenrolled families inherently noncomparable.

Socio-economic status of families was determined by examining income and educational attainment variables. Income variables included current income, family earnings two years previous (when Home Start families had entered the program), and per capita income. In terms of educational attainment, the two

groups were compared on mother's education and the highest level of education attained by the mother or another wage earner in the family. Significant group differences were found on all SES variables, with the Home Start group scoring lower than the comparison group. As noted in Table 3-6, comparison group families had average incomes almost twice that of Home Start families. The gap was even wider in terms of median income. The income differential was smaller two years previous to the interview, but income was still significantly higher for the comparison group. Since total household size for the two groups was comparable, statistically significant group differences were also found in per capita income.

Table 3-6

Family Income*

	Home Start	Comparison Group	F	p	Summary
Current Family Income					
(N)	136	134			
Mean	2.435	4.602	68.372	<.001	HMS<COMP
S.D.	1.761	2.488			
Median	1.998	4.828			
Income Two Years Ago					
(N)	138	137			
Mean	1.913	3.934	82.507	<.001	HMS<COMP
S.D.	1.310	2.260			
Median	1.620	3.531			
Per Capita Income (Current)					
(N)	134	134			
Mean	0.508	0.968	48.160	<.001	HMS<COMP
S.D.	0.481	0.598			
Median	0.335	1.000			

*Figures were computed using the following income categories: (1) under $4,000; (2) $4,001 to $6,000; (3) $6,001 to $8,000; (4) $8,001 to $10,000; (5) $10,001 to $14,000; (6) $14,001 to $16,000; (7) over $16,000.

Statistically significant differences were also found in terms of all educational attainment variables, as shown in Table 3-7 below.

Table 3-7

Educational Attainment

	Home Start	Comparison Group	F	p	Summary
Mother's Education (Years)					
(N)	136	134			
Mean	9.949	11.674	51.665	<.001	HMS<COMP
S.D.	2.161	1.770			
Median	10.289	11.853			
Highest Education (of Mother or Other Wage Earner in Years)					
(N)	136	135			
Mean	10.294	12.252	59.922	<.001	HMS<COMP
S.D.	2.087	2.076			
Median	10.804	12.025			

The two groups of families were also compared on a number of other family characteristics, including single-parent status, employment, total household size, and use of public assistance. As shown in Table 3-8, statistically significant differences were detected on most of these family characteristics, favoring the comparison group.

Table 3-8

Other Family Characteristics

	Home Start	Comparison Group	F	p	x^2	Summary
Number of Incomes*						
(N)	132	131				
No Income (%)	34.8	9.2	-	<.001	26.512	HMS>COMP
One Income (%)	42.4	58.0				
Two Incomes (%)	22.7	32.8				
Employment of Mothers (N)	135	135				
% Working	31.1	41.5	-	.100	2.707	NS
Sole Support of Family (N)	141	137				
%	7.8	8.0	-	.879	0.023	NS
Use of Some Form of Public Assistance (N)	141	137				
%	59.6	27.6	-	<.001	28.460	HMS>COMP
Medicaid Use (N)	136	134				
%	30.0	11.2	-	.002	13.619	HMS>COMP
Welfare Use (N)	136	134				
%	35.3	14.2	-	<.001	15.018	HMS>COMP
Food Stamp Use (N)	134	134				
%	46.3	17.2	-	<.001	24.879	HMS>COMP
Two-Parent Families						
(N)	137	135				
(%)	58.4	74.8	-	.006	7.514	HMS<COMP
Total Household Size						
(N)	136	135				
Mean	5.618	5.237	2.537	.112	-	NS
S.D.	2.238	1.649				
Median	5.088	5.091				

*This denotes income from employment

Subsample Sample Attrition Effects

Attrition analyses similar to those presented in the previous chapter (section 2.3) were undertaken on the subsample of Home Start families who were part of the paired sample. The results of attrition tests on this subsample are not substantially different from those reported on the full Home Start Followup Study, although they are somewhat weaker in part because the samples are smaller. Fewer significant differences between the paired Home Start subsample and attrited Home Start families were detected.* The most conservative test, again, rejects the null attrition hypothesis on the urban/rural living contrast ($p=.001$). There were no SES differences in evidence, although proportionately more attrited families used welfare and Medicaid as of fall 1973 ($p=.077$, .140). Slight differences were also found in children's tests, with paired Home Start sample children scoring higher on the fall 1974 language skills test and the spring 1975 Preschool Inventory ($p=.190$, .163). Home environment variables also yielded differences, with the paired Home Start subsample coming from homes with more books as of spring 1975, and lower mother's involvement scores in spring 1974 ($p=.118$, .108). The results of the attrition tests on this subsample are presented in Table 3-9.

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*Home Start families for whom no comparison group could be selected but who participated in the Followup Study were excluded from these attrition analyses.

Table 3-9

Subsample Sample Attrition Results

	Total Group			Subsample			a	b
	x	sd	n	x	sd	n	P_1	P_2
Demographics (22)								
% Urban F73	.678	.468	261	.385	.490	>8	<.001	<.001
Use of Services (72)								
Welfare F73	.496	.500	256	.300	.461	80	.216	.077
Medic. F73	.307	.462	257	.136	.345	81	.370	.140
Child Tests (36)								
DLANG F74	28.94	4.21	170	30.26	4.13	1.02	.725	.190
PSI S75	18.45	5.87	118	20.60	5.79	84	.663	.163
Home Environment (32)								
NBooks S75	3.75	1.32	128	4.24	1.37	95	.537	.118
Mo. Inv. S74	10.67	2.43	174	9.77	2.40	78	.496	.108

a. over 220 tests

b. over tests within domains

IV

ANALYSES OF PARENT OUTCOMES

The parent study was designed to determine whether the Home Start program had a positive long-term impact on parents. It was hypothesized that the services the program provided to families and its emphasis on the parent as educator would be reflected in parent behaviors, attitudes and activities two years after program conclusion.

Parent data were collected through one-hour interviews with all three groups of families who participated in the Followup Study--Home Start, comparison and Head Start. Data were obtained on six outcome domains which represent dimensions of parent competence that might have been affected by their participation in the Home Start program. Parent competencies that were examined ranged from the parent's ability to utilize the resources available to the family in a crisis to her ability to understand and meet her child's needs.

The first two parent outcome domains that were addressed in the interview concerned parent attitudes toward and involvement with school. The remaining four domains attempted to obtain long-term impact data in terms of parent-child interactions, maternal and child health, parental knowledge and use of community resources, and parent participation in the community. Each of the domains is closely related to overall goals of the Home Start program and services that were provided to program participants.*

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*Responses to items in the parent interview and item distributions are presented in Appendix B.

In order to obtain a broader insight into what program participation meant to families as well as parent perceptions of long-term program effects, a series of in-depth interviews were conducted with nine families in Arkansas and Kansas. These interviews constituted a small pilot study designed to obtain descriptive information about Home Start families. The nine families were chosen for this pilot study to represent high and low levels of involvement in program activities. This was determined from Home Visitor records collected during the original evaluation which provided information about the number and length of home visits and participation in parent meetings and activities. The high and low participation groups in the two sites were matched to the extent possible on other family characteristics, such as age of mother, birth order of child, and so on.

Long-term impact of the Home Start program on parents could only be determined by comparing Home Start families with a group similar in socio-economic status (SES) and other family characteristics. As was discussed at length in Chapter 3, the Followup Study ended up with non-equivalent groups--the Home Start group had a significantly lower SES than the comparison group. Comparison group families had a mean per capita income almost twice as high as the Home Start group, and the mother had more years of education. Some significant group differences also were detected between the Home Start and Head Start groups (as noted in Chapter 2), in terms of child ethnicity, length of preschool experience, educational attainment of the mother and family location. The Home Start and Head Start groups were found to be comparable on family income, however.

It is difficult to make meaningful comparisons in terms of parent outcomes when the two groups are not equivalent and covariable models are found to be heterogenous. This issue was addressed in Chapter 1 and is explored further in Chapter 5. The non-equivalency and heterogeneity of covariable models could produce potentially misleading findings about the presence or absence of long-term program effects on parents. Many of the outcomes examined in the parent study are presumed to be influenced strongly by SES. Mother's education, for example, has been found to correlate highly with the expectations parents hold for their children. It is therefore not surprising that a significant group difference was detected on this parent outcome domain between the Home Start and comparison group in simple one-way analyses of variance. It would be misleading to conclude that Home Start did not help to raise parent expectations for their children's education, although this is what the group comparisons would suggest. Another example of a potentially misleading group comparison would be higher utilization of public assistance programs, such as food stamps, Medicaid and welfare, by Home Start families. This may simply reflect the fact that a larger percentage of Home Start families meet eligibility requirements for these public assistance programs than is the case for the comparison group.

Because the groups were not equivalent, covariable models were found to be heterogenous, and the resulting potential for reaching misleading conclusions, the decision was made to limit parent outcome analyses to simple descriptive comparisons. Similarities and differences between the

groups on the six parent outcome domains can be briefly summarized as follows. One-way analyses of variance showed that the comparison and Home Start groups ranked the same on several parent outcome domains, including parent attitudes toward school, maternal and child health, and parental knowledge of community resources. In terms of dental care, the Home Start group was favored; a smaller percentage of the Home Start children had never been to a dentist than was the case for the comparison group. On parent involvement with school (including expectations for their children's education), parent-child interaction (especially in terms of the percentage of parents that read with or to their child), and involvement in community organizations (including their use of public assistance programs), the comparison group was favored.

These findings are difficult to interpret because of group non-equivalency on a number of family background characteristics. The comparisons fail to provide clear evidence about long-term impact of Home Start on parents. Neither is there evidence to suggest that the program was ineffective in terms of the six parent outcome domains that were the focus of the parent study. Despite group differences in terms of SES, the two groups ranked the same on a number of outcome domains for parents. Intuitively this implies that Home Start families may to some extent have overcome the income gap, and that they are managing their lives in much the same way as families who are considerably better off. If this assumption is correct, Home Start undoubtedly played an important part in that.

Comparisons between Home Start and Head Start families show the groups to be comparable in terms of parent outcomes. This suggests that the two programs produced similar long-term program effects for parents. This hypothesis unfortunately cannot be tested due to heterogeneity of covariable models and the small size of the Head Start group, resulting in lack of statistical power with which to detect group differences.

There are a number of questions relating to former Home Start families that remain unanswered in these descriptive group comparisons. It is useful to know, for example, whether families are relatively healthy, interested in their children's education, and in contact with others who provide support, friendship or assistance after two years out of the program. Has the program helped families change their methods or expand their resources for coping with current problems or future ones? In other words, are the former Home Start families able to function more successfully now than upon entry into the program? These and related questions are explored in the sections (4.1 through 4.6) that follow, clustered around the six parent domains.

It is evident both from the in-depth and regular parent interviews that all families did not have the same expectations about their involvement in Home Start. Different parents wanted different things for themselves, their children and their families when they entered the program three or four years ago. Some joined in order to get help with family problems,

while others hoped that parent meetings and activities would help reduce feelings of isolation which they were coping with. Most, however, became involved out of a concern for their children and a desire to give them a "head start" in school.

In the interviews, parents talked about their involvement in the program. Several of the families who were interviewed more than once talked explicitly about changes that occurred as a result of their involvement in Home Start. They said their "lives are better" and were emphatic about the program's helping role. Among the reports of lasting change were: solutions to family problems; improvements in the quality of family relationships, including better (and frequently more) time spent with the children; job training and employment; financial stability; and a more "positive" outlook on life. Other families, on the other hand, did not feel that they had benefitted from their involvement in the program or found it difficult to talk about change or associate change with program participation.

Parent views about their participation in the program are reported in Section 4.7. Information is presented on both the Home Start and Head Start groups, since it provides interesting contrasts which are related to differences in program emphasis. In this section, families talk about various components of the program and the extent to which they felt there had been enough opportunities for learning or participation. Also reported are their views about the length of time families should remain in the

program. The chapter (Section 4.8) concludes with a comparison of the one- and two-year Home Start groups on selected variables to determine the extent to which program duration effects parent outcomes. No differences between the two groups were detected in the original evaluation study.

4.1 Parent Expectations and Attitudes Toward School

That poor children would be better prepared cognitively and socially for school through Home Start was an important assumption of the program. So was the assumption that parents who became involved directly in their children's educational development during preschool years would remain involved in their progress in school. Furthermore, it was thought that participation in Home Start would impact on parents' attitudes towards and relationship with the school. Important factors in the parents' attitude toward school are: the value they place on education, the aspirations they hold for their children, their awareness of their child's educational needs and their perception of the school's receptivity to their ideas.

Parents' attitudes toward school can reinforce or counteract the in-school learning process. Parents' expectations, attitudes and values in turn influence their children's own expectations, attitudes and values. A mother's high aspirations for her child and pressure on him for school achievement influence his motivation to succeed as well as his actual achievement (Rosen and D'Andrade, 1959; Bing, 1963).

These and related topics are explored in the sections that follow.

Parent Expectations

Most Home Start parents had high expectations for the education of their children. Almost all (98%) indicated that they wanted their children to finish high school or go beyond high school to college or vocational training. When asked how far in actuality they thought their children would progress in school, parents lowered their expectations somewhat. Nevertheless, as shown in Table 4-1, a large percentage of the Home Start parents (89%) continued to have confidence that their children would go far in school. Some parents, however, did not speculate about how far their children would go in school or indicated that it depended on a number of factors. Their reluctance to specify a particular level of expected educational attainment is reflected by a drop in the number of respondents to this question.

Table 4-1

Parental Expectations for Child Education (Percents)

	How Far Do You Want Child to Go?		How Far Will Child Go?	
N	195		177	
Finish Grade School	0.5		2.8	
Finish Some High School	1.5		8.5	
Finish High School	56.9		68.4	
Take Vocational Training	1.0	97.9	4.5	88.7
Go to College	17.4		8.5	
Finish College	20.5		5.6	
Go to Graduate School	2.1		1.7	

Parental expectations for their children thus exceeded their own achievements in school. (As noted in Chapter 2, Home Start mothers had received an average of only ten years of formal schooling.) This finding provides evidence that parents believe children need a good education in order to get ahead.

Most parents gave positive reasons for the expectations they held for their children's educational achievement. They mentioned high self-motivation on the part of the child or the fact that the child has abilities and likes school as reasons for their high expectations. Some parents with lower expectations felt helpless to change "the way things are", meaning that they would not be able to afford a good education, that the child would marry at a young age, or would drop out of school to go to work to help support the family.

In addition to expecting their children to go far in school, most Home Start mothers gave their children high ratings for their performance in school: 40 percent reported that their children were doing very well in school at the time of the interview and 41 percent as doing well. Seventeen percent of the children received fair and 3 percent poor ratings on school performance from their mothers. Expectations on how well the children would do in school in the future were somewhat lower than those reported for current performance in school. Forty-two percent of the mothers thought their children would do well or very well in school and 55 percent only fairly well. Poor ratings were given for 3 percent of the children.

Parent Attitudes and Satisfaction

The value that parents place on education was not only assessed through data on parental expectations for their children's education. Parents also were asked to talk about school receptivity to their ideas and what is done at home to help the child with school work to get a better understanding of how parents view school.

In order to determine the extent to which parents feel they can change things at school, they were first asked whether anything had gone wrong at school during the past year. Forty-nine of the 187 Home Start mothers responded to this question affirmatively. Thirty-two of these mothers (65%) had attempted to get the problem resolved and twenty-eight (87.5%) reported that they had succeeded in making changes. This was attributed mostly to school responsiveness and cooperation. A small group of parents expressed the belief, however, that nothing could change the schools.

School attitudes of parents are often influenced by their level of satisfaction with various aspects of school. In terms of the child's progress in school, over half of the Home Start mothers (60%) indicated they were extremely satisfied. About one-third (34%) were fairly satisfied and 6 percent expressed dissatisfaction. This dissatisfaction often was attributed to the fact that the child was a slow learner or not applying him/herself to school. Some parents blamed their dissatisfaction, however, on shortcomings of the school. Quotes from the in-depth interviews (conducted as part of the family descriptive

study pilot test) are illustrative of aspects of the school some parents were dissatisfied with. "The schools here are the worst in history -- something ought to be done about them, but it's hard", one mother in Kansas commented. Another mother complained that the children in one teacher's class were all reading below grade level. "They weren't doing anything at grade level."

Parent satisfaction with school was also measured by examining parent ratings of teachers and assessing the extent to which there is congruence between value and discipline styles of parents and teachers. Most Home Start parents rated their children's teachers as either excellent (31%) or good (48%). Nine percent of the mothers reported that their child's teacher was not very good; the remaining 14 percent said (s)he was all right as a teacher.

In response to questions about value and discipline styles, a fair amount of congruence was reported. Over half (58%) of the parents reported that the children were dealt with in the same fashion at school and at home. Of the 42 parents who commented on style differences, eleven (26%) viewed them as negative attributes of the teacher and nine (21%) as positive traits. The remaining group of families expressed no opinion about the different way the children are being dealt with at school. Most style differences concerned strictness or permissiveness on the part of the teacher.

Child Reaction to School

If Home Start has been successful in helping parents to take an active role in the education of their children, this should be reflected not only in parent expectations and attitudes towards school but also in the child's reaction to starting school. It was assumed that children would approach school with eagerness resulting from the educational stimulation provided in regular visits to the home by program staff and the teaching by parents that occurred at home.

Most Home Start parents (81%) described their children as having been very eager to go to school at the conclusion of the Home Start program and seemed very pleased with such eagerness. Only 7 percent of the mothers reported that their children didn't want to go to school or didn't care one way or the other. Eagerness diminished somewhat after the child entered school. In spite of the small decrease in eagerness reported by mothers at the time of the interview, a large percentage of the children (70%) were still going to school with eagerness.

In the in-depth interviews, some mothers attributed this decrease to the fact that their children were somewhat bored or impatient with kindergarten or first grade. One parent mentioned that her child had learned more in Home Start than in her whole year in kindergarten; another suggested that both Home Start and her independent activities with the child had made kindergarten unnecessary. Not all families in the in-depth family study agreed on this point, however. One mother in Arkansas reported that the teacher's expectations for her child were too high. "When they sent my little boy home from his first

day of kindergarten with a note saying he had to learn to write his name, to know his colors by the next day, I didn't know what to think. Home Start said they (the program) wouldn't teach kids how to read or write because that was for the school." After talking to the teacher, she finally agreed that she was asking too much. "I don't know what would have happened if I hadn't talked to her", the mother concluded. It illustrates that some families have a high level of involvement in their child's education and are willing to address their concerns with officials at school.

The in-depth interviews also showed that parents had different ideas about what children should learn before entering school. This also was evident in the parent interview in which parents were asked which things were most and least important in their view, as shown in Table 4-2.

Figure 4-2

Parent Views on Things
Children Should Learn
Before School Entry
(percents)

	Most Important	Least Important
N*	186	180
Things for School (Academics)	36.6	15.6
Get Along and be Able to Share	36.6	16.1
Be less shy	9.7	54.4
Self-control	17.2	13.9

*The N's for these two questions are different. The incidence of missing data or don't know responses was higher on the least important question.

Nineteen percent of the mothers reported that there were other things they felt their children should know before starting school. These were, in rank order, name and address, academics, ethics, independence, social adjustment and for non-English speaking families learning to understand English.

4.2 Parent Involvement with School

Closely related to the parent's attitude toward school is her involvement with the child's school. Parent involvement in school activities help to continue the process begun by Home Start of alerting the parent to the child's educational needs and will, at the same time, foster cooperation between home and school. Another manifestation of parent involvement in the educational process is the time spent by the parent with her child in school-related activities at home. This section examines the quantity of parent-school interaction, based on parent self-reports.

School Contact*

A large percentage of the Home Start parents (87%) had been in contact with the child's teacher or other school personnel during the 1976-77 school year (when the Followup Study took place). Almost all of the 169 parents who

*Data about school contact reported in this section reflect combined responses to Questions 47 and 48. Responses are therefore different than those reported in Appendix B.

had been in contact with school (94%) had met with the child's teacher. About half of the parents (53%) indicated they went to school for a special reason -- primarily to talk about academic problems of the child or the child's behavior in the classroom. Other visits were for regular parent-teacher conferences. When asked who initiated the meeting at school, 30 percent reported that the contact was at their own initiative; 25 percent had meetings at school at the teacher's request. It is not clear who arranged or requested school meetings for the remaining group of families; parents simply couldn't recall.

Parents had met with teachers and/or other school personnel an average of 5.1 times during the school year, with a standard deviation of 5.7. Discussions with teachers focused mostly on things learned in school, child behavior, books or toys that would benefit the child and teaching style.

Almost half of the Home Start mothers (48%) reported that they had been in contact with other school personnel. Seventy percent of the these 94 mothers had met with the principal. Another four families went even higher up and addressed their concerns to the superintendent of schools.

Contact with schools was not limited to meetings with school personnel for a substantial portion of the parents. Forty-two percent had made visits to the child's classroom during the year. Over half of the parents (60%) indicated that the school welcomed classroom visits by parents; 30 percent reported that

schools regard such visits as OK and 5 percent said they are discouraged from visiting the classroom or that they are not welcomed. The remaining families did not comment on how the school viewed parent involvement in the classroom. Ten parents reported that they were working at the child's school either as a volunteer or for pay.

Only a small percentage of the Home Start families (25%) were members of the local PTA. Reasons for their low level of participation are not apparent from the parent interviews.

Help with School-Related Activities

Parent involvement with their children on school-related activities was high. Approximately two-thirds of the mothers (64%) reported that someone at home assisted the child with school work. They helped with reading and spelling words, and went over school papers to help explain what the child did wrong or well. A large percentage of parents (64%) indicated they helped the child with school work in other ways. They talked to their children about getting along with peers. As noted in the subsequent section on parent-child interaction, most parents read to their children, knew what kinds of books their children liked to read, and could talk about their children's reading habits.

4.3 Parent-Child Interaction and Home Environment

One of the principal goals of Home Start was to help parents to develop and expand their role as their children's most influential educators.

Furthermore, Home Start helped parents to create a home environment which provides the child with stimulation and encouragement conducive to learning and to the child's social and emotional development. Original evaluation findings showed that the program was successful in achieving these goals. (This evidence was particularly strong after seven months of participation in the program.) The Followup Study was designed to determine the extent of parent-child interaction two years after the children entered school. The information presented below is based on self-reports rather than on direct observations of parent-child interaction in the home.

Parent-Child Interaction

A large percentage of the Home Start parents reported a high level of interaction with their children. Ninety percent indicated that they read to or with the child. In most Home Start families (83% of the total group), the child was being read to at least once a week. In many homes, this occurred more frequently--38 percent of the children were reported being read to several times a week; for 29 percent this was an everyday event.

Children were read to most frequently by their mothers (69%) and older siblings (42%). Fathers were reported to read to 8 percent of the children. Most of the parents indicated that they knew their children's reading habits and the kind of books they liked to read. Most children (97%) were reported to look at a book or magazine at home. About two-thirds of the children (64%) read by themselves everyday; 20 percent several times a week.

Parents also were asked about verbal interaction with their children. Most mothers (85%) reported that someone talks to the child about his or her day or about what happened at school. The child talked most frequently to the mothers (in 77% of the homes) or with older siblings. Most discussions with the child centered on school and other children. Fathers were reported to spend time talking with the child by 17 percent of the respondents.

Parent involvement in terms of helping the child with school work or household chores the child had responsibility for also was relatively high--64 percent assisted with schoolwork and 47 percent with household chores. A 5-point scale was created to determine parent involvement (either mother, father or both) on five variables (reading, help with homework, help with household chores, outings, and talking to the child). With the exception of one parent, all interacted with their children on one or more activities and received a mean rating of 3.2 types of activities they were involved with (S.D. = 1.11).

Provision of Stimulation Through Play Materials and Experiences

Parents were asked about the kinds of materials and toys available in their homes. The availability of such material resources may relate to a tendency on the part of families to utilize and expose the child to interesting and educational experiences. (Items were taken from the High/Scope Home Environment Scale that was used during the original evaluation.) Home Start

children had an average of 3.3 different types of indoor play materials (S.D. 1.67), such as books; put-together toys; and dolls, cowboys or soldiers. Over half of the parents (54%) reported that there were children's books available in the home. Since a significantly higher percentage of parents read to their children, it must be assumed that these books are loaned from a library or the school for use by the children. For active outdoor play, Home Start children had an average of 2.7 materials they could use (S.D. 1.29). Among the most commonly available play equipment were a bicycle or tricycle; a ball or jump rope; and a swing, slide, jungle gym or sandbox.

A number of other items in the parent interview assessed the educational environment in the home. Questions were asked to determine whether children go on outings with someone in the family and watch educational television. On the average, Home Start children watched 16 hours of television per week, with a standard deviation of 10.94. About one-quarter of the mothers (27%) reported that their children watch educational television, such as Sesame Street, Mr. Roger's Electric Company, Captain Kangaroo or Ville Alegre. Some of these shows were designed for socially and economically disadvantaged children. Most children, however, watched entertainment shows specifically geared towards children (67%) or entertainment presented in the early evening hours (53%).

Most Home Start parents (93%) reported that children are taken on outings occasionally. These were mostly for shopping trips or visits to a park or zoo. Very few parents (3%) reported taking their child to a library on one of these outings.

Fostering of Maturity and Independence

A number of questions were included in the parent interview to determine parental willingness to let the child assert his or her own interests and gradually assume appropriate responsibilities.

One measure of maturity and independence is whether or not child dresses him/herself and is permitted to choose his or her own clothes. As expected given the age of the Home Start children, almost all (99%) dressed themselves without any help. A large percentage of the children (88%) also were reported to choose their own clothes.

In terms of responsibilities at home, 77 percent of the children were assigned household chores. Children were responsible mostly for helping with housework (68%) and taking care of their own belongings (62%). About one-third of the children (36%) took care of animals and pets in the house. As was noted earlier, many children received help from the mother with household chores.

Another measurement of maturity and independence is whether children are permitted to go out and play with friends. Over two-thirds of the children (70%) had friends living nearby. Sixty-three percent of the children with friends played with them everyday; 22 percent had occasion to do so several times a week.

Organization of Stable Environment

A final aspect of the home environment that was examined was its stability. Parents were asked whether there had ever been an occasion when the child was cared for regularly for half a day or more by someone else. Over half of the parents (58%) indicated that this had occurred, mostly to enable the parent to go to work or during periods of illness in the family. A larger percentage of parents (86%) indicated that they know someone who could care for the children if necessary. In most cases, the child would be cared for by the father (18%), grandparents (39%) or relatives (22%). About one-fourth of the children (28%) would be left with older siblings at home; for the remaining group other child care arrangements would be made (friends or a babysitter).

Parents were not only asked about child care arrangements but also about the length of time families lived at their current address and the number of moves in the last five years. Home Start families had lived at the same address an average of 3.8 years (S.D. = 2.5), and had moved 1.3 times (S.D. = 1.3). About half the families (46%) reported that they own their house, 47% rent, and 7% neither rent or own, but live with other relatives.

4.4 Maternal and Child Health

Studies of health care have repeatedly shown that poor families have a high proportion of health problems and a low incidence of regular health care. Improved maternal and child health care, as a result, were important goals of the original Home Start program. During the course of the Home Start demonstration, Home Start children were found to have better medical and

dental care than the control children after one year of program participation. Home Start children had been to a doctor more recently and the visit was more likely to be for preventive reasons. Similar findings favoring the Home Start group were reported for dental care. Health care for mothers, on the other hand, was not explored during the original Home Start evaluation.

Child Health Care

Two years after the program concluded, Home Start children still appeared to receive health care on a regular basis. They had last been to a doctor an average of 6.7 months before. For over one-third of the children (37%), this visit was for a medical checkup rather than for the treatment of a problem. The last medical checkup for the Home Start children had occurred about eight months previously. Some parents reported, however, that they do not bother with regular checkups for their children, because they have to go to the doctor a couple of times a year anyway. About three-fourths of the children (70%) had been to a doctor in the last year.

In terms of dental care, considerably more time had elapsed since the last visit to the dentist. On the average, Home Start children had been to a dentist 8.8 months before the interview. For 64 percent of the children, this was a dental checkup. Not all of the Home Start children received regular dental care, however. Slightly less than half of the children (47%) had not seen a dentist in the past year; 7 percent had never been to a dentist.

In addition to obtaining information about the frequency of medical and dental care for children, parents were asked to rate the general health status of their children and to identify special health problems which they felt might affect the child's performance in school. The general health status of Home Start children was rated on the average as "good" by their parents. About one-third of the children (31%) received excellent health ratings. The health of 12 percent of the children was rated as fair; none as poor.

Forty-seven children (or 24% of the total sample) were reported having health problems that were thought to be related to their school performance. Among the school health problems most frequently mentioned were vision and hearing difficulties (63%) and chronic problems (17%). Although the number of children with vision and hearing problems is relatively small, this finding is somewhat alarming since such problems are often easy to remedy. As would be expected, children with such health problems had been to the doctor more recently than other children.

Maternal Health Care

Home Start mothers reported having been to a doctor five months previously on the average, and for a medical checkup in the last eight months. Most (74%) had seen a doctor in the past year. For 41 percent of the mothers, this visit was for preventive reasons. Seventeen percent indicated that they received regular treatment for chronic health problems.

In rating their own health status, 65 percent of the Home Start mothers reported being in either good or excellent health. Thirty percent rated their health as fair, and five percent as poor. About one-fourth of the Home Start mothers indicated that they have medical problems, such as anemia, asthma, depression and nerves. Most mothers, however, did not specify what type of medical problem they were coping with.

Participation in Medicaid and Food Stamps

In order to improve the health care of Home Start families, the program encouraged eligible families to become enrolled in Medicaid and the USDA food stamp program. At the time of the followup interview, 19 percent of the Home Start families were participating in Medicaid, and almost half (46%) were receiving food stamps.

4.5 Parents' Knowledge and Use of Community Resources

A goal of the Home Start program was to help parents identify and use the community resources available to them. The original Home Start study found few differences in use of community resources by the three groups of families who participated in that evaluation. This may have been an artifact of the way this topic was explored. Parents were given a list of community services (Legal Aid, Medicaid, Housing Authority, etc.) and were asked whether they were using any of the services. A slightly different approach was used in the Home Start Followup Study which asked parents where

they would go if they had a particular problem or need for services. This was to determine whether families could identify appropriate agencies and the extent to which they relied on informal networks for support or help. Parents also were asked whether they in fact had used the service.

The parent interview assessed the following aspects of parent knowledge and use of community resources:

- emergency health
- child behavior or developmment
- mental health
- family counseling and social welfare
- employment or job training
- legal aid
- tenants' rights or housing problems
- educational information.

Parent responses on knowledge of community resources were classified in essentially four categories: agencies deemed appropriate to provide assistance or help solve the problem; other non-specified agencies; informal sources of support such as relatives, friends or the church; and other responses. As is illustrated in Table 4-3, a large percent of the Home Start families were able to identify appropriate agencies for help on most problems. They would rely on informal sources of support mostly for depression or mental health problems, financial aid, and for home repairs.

Table 4-3

Knowledge of Community Resources
(percents)

	N	Appropriate Agency	Other Agency	Relative/ Friend	Other
Emergency Health Care	192	95.3	1.0	2.1	1.6
Child Behavior or Development	146	78.1	6.8	13.0	2.1
Depression (Mental Health)	144	53.5	6.3	38.2	2.1
Financial Aid	160	43.8	15.6	29.4	11.3
Employment	178	82.0	3.9	3.4	10.7
Legal Aid	179	79.3	2.2	7.8	10.6
Home Repairs	115	50.4	19.1	27.0	3.5
Adult Education	140	77.1	14.3	-	8.6

Actual use of community resources was high for the Home Start group. Eighty-five percent of the families had used resources for emergency health care. Other problems that over half of the families had sought help for were financial aid (64%), employment (57%), and depression or mental health problems (56%). Use of sources to obtain information or advice about child behavior and development problems also was high (42%). Usage was lowest in terms of home repairs (21%) and legal aid (24%).

In addition to using various community resources to provide help with specific problems, a number of families participated in one or more public assistance programs. Forty-six percent of the Home Start families did not use any form of public assistance, however. Food stamps were the most commonly used public assistance program (46%), followed by welfare (34%) and Medicaid (29%). Far fewer families were enrolled in federally-subsidized job training programs (9%) or were living in public housing (14%). On the average, Home Start families used 1.3 public assistance programs, with a standard deviation of 1.4.

4.6 Parent Participation in the Community

Most families are involved in a network of relationships with schools and community agencies, with friends and organizations in the community, with extended family members, with work associates and with other families. Many poor families, however, are cut off, not only from political participation in their communities, but from social networks as well. Informal evidence from the case studies of Home Start families

conducted during the original evaluation suggests that many Home Start families were isolated geographically or socially when they entered the program. It was Home Start's intent to bring families in contact with community agencies and informal support networks and to reduce family isolation. The Followup Study explored the question of isolation as well as the extent to which families were active participants in community affairs.

Most of the Home Start families (98%) reported that they have relatives that live nearby. About two-thirds (63%) also had nearby friends and were in touch with them frequently. Home Start mothers reported spending an average of 9.6 hours per week with people outside their immediate family (S.D. = 13.582). Forty-seven percent of the families also met regularly with groups of people in their community. Over half of the Home Start parents (58%) indicated that they occasionally saw or talked to parents that they used to know in the program. They met them mostly in town, on shopping trips or informal visits. Church or school meetings also provided a forum for meetings with other program participants.

Home Start families were involved only minimally in groups such as church, PTA, Boy Scouts, political organizations and others. On the average, Home Start families belonged to 1.2 organizations, with a standard deviation of 1.2. About half of the families (49%) were affiliated with a church; 25 percent had membership in the PTA and 22 percent were involved with the local Boy or Girl Scouts. Participation in political organizations was even lower; only 9 families out of 193 (5%) reported being active in

such groups. The low level of community participation may be because Home Start families rely more on informal networks, such as friends or relatives, than on groups for companionship and support.

Factors that contributed to family isolation were the location of the family residence and the absence of a car or telephone. As was discussed in Chapter 2, over half of the Home Start families (52%) lived at least 2.5 miles from the nearest town, 76 percent had access to a car, and 69 percent had a telephone in their home.

Isolation thus is far less extensive than was suggested in the original evaluation, although it is not the same for all families. The presence of a car didn't necessarily mean that mothers got out of the house much since several reported that their husbands have the car every day at work. Information from the in-depth interviews provides some evidence that Home Start reduced family isolation to some extent. As one mother noted, "sometimes my Home Visitor was the only person I saw outside of my house all week long." Others reported that they became involved with groups of parents and made valuable friends.

4.7 Parent Views About Program Participation

At the conclusion of the interview, parents were asked to talk about their participation in the program in an attempt to determine how it influenced their lives and the way they interact with their children.

Parent views also were elicited about the length of time families should be served by the program and ways the program could be strengthened. Since the Home Start and Head Start programs were similar in a number of ways in terms of services offered to families with young children, both groups of parents were asked about their views. This section reports information on both the Home Start and Head Start groups since it provides some interesting contrasts which are related to differences (home- vs. center-based) in program emphasis.

All Home Start and Head Start parents in the Followup Study were given a list of things the program offered families and asked which one was most important to them. Activities concerning the child were given the highest ranking by both groups [62% (HMS) and 52% (HDS)]. This is not surprising since the child was the principal focus of the two programs, although the role of parents as educators received more emphasis in Home Start. Learning about child growth and development was viewed as most important by 40 percent of the Home Start and 46 percent of the Head Start parents. Differences in program emphasis of the two programs are apparent in terms of the percentage of parents who considered learning new activities or games to do with their child as most important. More Home Start (20%) than Head Start (7%) parents viewed this as a valuable asset of the program ($X^2 = 3.624$; $p=.057$). Meeting other parents and making friends ranked second in importance for the Head Start (25%) and third for the Home Start group (15%).

When asked what aspects of the programs were least important, the two groups of parents cited the same items in the same order. Getting out of the house for trips, meetings or workshops was viewed as least important [22% (HMS) and 30% (HDS)]. Having someone to talk to or help with ideas or problems was rated second by both groups [18% (HMS) and 14% (HDS)] and obtaining health care as third [17% (HMS) and 14% (HDS)].

In addition to discussing what was most and least important about the program, parents were asked whether in their opinion the program had provided enough opportunities to participate in various aspects of the program. Furthermore, they indicated how little or much their knowledge had broadened about child development, community resources, parent-child interaction, adult education, to name just a few of the services that programs offered to families. These services fall into four categories: activities related to the child; home management and use of community resources; adult education and acquisition of new skills; and social activities for parents. Another aspect of the program parents were asked to comment about was their role in policy making and program evaluation.

Activities Concerning the Child

Parents reported on the opportunities the two programs provided to learn about child growth and development, child discipline and managemnt and to involve other members of the family to do things with the child. Most parents (91% in both groups) felt that enough opportunities had been provided, especially in terms of child growth and development. Fewer

viewed the opportunities for learning about child management and discipline (71% for both groups) and increasing family interactions with the child (70% and 62% for the Home Start and Head Start groups, respectively) as adequate. Table 4-4 shows how much parents reported they learned about these topics and compares the two groups.

In the in-depth interviews, most parents attributed some changes in their relationships with children to Home Start. The program did not tell them how to be a parent; most mothers said they already spent time with their children and knew they were supposed to talk or read to them. The value of the program, they said, was that Home Visitors helped them see how they could spend time with their children that was more satisfactory than what they did before. They knew songs and games from their own childhoods, but not how to help their children learn shapes or colors. They learned how to involve children in their own work routines. Young mothers in the in-depth study commented on the fact that they had learned about certain stages of child behavior and development for the first time through Home Start. Other, more experienced mothers also reported changes in the way they dealt with their children.

Home Management and Use of Community Resources

Considerably fewer parents felt the program had provided enough opportunities to learn about managing the family budget, nutrition, home repairs and other aspects of home management. Fifty-eight percent of the

Table 4-4

Activities Concerning the Child

Amount Learned*

	Home Start	Head Start	F	p	Summary
Child Growth and Development (N)	172	42			
Mean	3.10	3.02	0.223	.637	NS
S.D.	0.90	1.02			
Child Discipline and Management (N)	152	36			
Mean	2.85	2.78	0.131	.718	NS
S.D.	1.05	1.10			
Family Interaction with Child (N)	152	38			
Mean	2.86	2.76	.209	.648	NS
S.D.	1.09	1.20			

*Based on following categories: (1) not at all; (2) little; (3) some; (4) a lot

Home Start and 46 percent of the Head Start parents commented that this aspect of the program had received sufficient emphasis and slightly over half of the families [56% (HMS) and 53% (HDS)] said there had been enough opportunity to learn about services or activities offered by other agencies or organizations. Parents also reported that they had learned somewhat less about these two topics than about activities related to the child. On home management the groups rated 2.52 (HMS) and 2.09 (HDS), with standard deviations of 1.23 and 1.26 respectively. The Home Start ratings were even lower in terms of services (2.07 with a S.D. of 1.13) and slightly higher for the Head Start group (2.13 with a S.D. of 1.21).

Very few families also indicated that the program provided help with problems concerning money or arranged for aid or food stamps. Twenty-two percent of the Home Start and 20 percent of the Head Start families reported receiving such help. Program records from the original evaluation as well as in-depth interviews showed that much more assistance was provided to program participants. One mother commented that while her husband was recovering from an operation, the family received emergency food, clothing and income assistance to get through the winter. The family now makes it without any extra aid. "That winter," she said, "the program changed things a whole lot for us."

About half of the Home Start families (52%) indicated, however, that they had received help in other ways--to get their home repaired, eye glasses for their children or clothing. Only 38% of the Head Start families had received such help.

Adult Education and Acquisition of New Skills

Another aspect of the program was to teach parents new skills or crafts and to help them get a GED or training for a job. Over half of the families [57% (HMS) and 56% (HDS)] felt the program had provided enough opportunities to learn new skills or crafts. Less emphasis was placed on adult education, as reported by parents. Thirty percent of the Home Start and 20 percent of the Head Start parents felt that there had been enough adult education opportunities. In terms of the amount learned, adult education ranked lower (1.52 with S.D. of 1.02 for Home Start; and 1.79 with S.D. of 1.26 for the Head Start group). The ratings for crafts and new skills were somewhat higher (2.5 with a S.D. of 1.22 for Home Start; and 2.38 with a S.D. of 1.30 for Head Start). Very few families in both groups reported that the program helped them obtain training (4.2 and 4.9% respectively for the Home Start and Head Start groups). Almost twice as many families indicated that the program had encouraged continued education.

Social Activities for Parents

Social activities for parents, such as trips to new places, and get-togethers received high ratings from both groups. Three-quarters of the Home Start families (75%) and 84 percent of the Head Start group said enough opportunities had been provided to go on trips. Head Start parents gave get togethers the same rating; a larger percentage of Home Start parents (86%) viewed this aspect of the program as adequate.

Parent Policy and Program Evaluation

Finally, let us examine whether parents felt that adequate opportunities had been provided to make program decisions, set policy or to evaluate program activities and effectiveness. A large percentage of the parents said that the program had. Seventy percent in the Home Start group felt enough opportunities were provided for policy making and 83 percent in terms of program evaluation. The two groups rated these programs similarly; adequate ratings were given by 75 percent of Head Start parents on policy making and by 80 percent on program evaluation.

Parents also felt they learned a lot about these two aspects of the program. For the Home Start group this was 2.63 and 2.86 (with S.D.'s of 1.17 and 1.01) and 2.73 and 2.83 (with S.D.'s of 1.12 and 1.11) for the Head Start group.

Program Improvements

Over one-third of the Home Start families (40%) felt that the program could have been better by making more home visits and offering more opportunities for parent participation in the program. Program improvements were also suggested by 30 percent of the Head Start parents, who wanted to see more activities and increased parent participation.

Home Start parents also were asked about their home visitor. Half of the families (51%) reported that they had more than one home visitor during their participation in the program. Thirty-six percent of the parents said their home visitor was better than others who had been assigned to work with other program participants. Forty-three percent rated their home visitor the same as others, 4 percent not as good. Several parents (16%) said they simply didn't know.

It is interesting to note that contact between families and Home Start program staff continued after the child entered school. Over half (55%) reported they had seen or talked to their former home visitor or others from the program, mostly once or twice a year (41%) or several times during the year (33%). Twenty-three percent saw them once a month or more frequently.

At the conclusion of the interview parents were asked how long they felt families should stay in the program. Parent views varied on the length of program participation as is shown in Table 4-5.

Table 4-5

Length of Program Participation
(percents)

	Home Start	Head Start
N	180	43
One Year	13.9	14.0
Two Years	22.2	18.6
Until Ready to Leave	14.4	23.3
As often as there are 3-5 Year Olds	20.6	9.3
Other	28.9	34.9

These figures reflect differences in program emphasis. Fewer Head Start families mentioned that they should remain in the program as long as there are 3-5 year olds in the family, undoubtedly because the Head Start program gives parents that option. That was not the case, however, in the Home Start demonstration program but may in fact be a practice in the home-based option many Head Start programs adopted in recent years.

4.8 One-Year vs. Two-Year Program Effects

One of the principal research questions the Home Start Followup Study was designed to address was whether two years of Home Start was more effective in producing positive outcomes for parents than one year of program participation. No immediately apparent differential effects could be detected between the one- and two-year Home Start groups at the conclusion of the original Home Start evaluation. It was hypothesized, however, that there might be a "sleeper" effect and that differences between the groups could emerge two years after the program ended.

Over half of the Home Start Followup Study participants (52%) had been in Home Start for two years. The distribution of one- and two-year families varied from site to site, however. Ohio had the lowest percentage of two-year families (36%) and West Virginia the highest (60%). As is illustrated in Table 4-6, the two groups were comparable in terms of SES.

One-way analyses of variance show that there do not appear to be any differences on parent outcomes between the two groups that could support the notion that two years of Home Start is more effective than one. Only one statistically significant difference was detected--on satisfaction with school progress--favoring the one-year group.

These data seem to indicate that families did not derive as much incremental benefit from their second year in the program as they did from their first. The apparent lack of differential one- vs. two-year effects for parents is probably due to several factors reflecting the nature of Home Start and the measure used to assess parent outcomes. First, Home Start was designed and implemented in accordance with broad goals for child development and other services to families. It provided different services to families depending on their needs and circumstances. Although the overall emphasis of the program was to help parents become better teachers of their children, the program also emphasized helping parents to experience success and acquire skills that were related to personal growth, social participation, family management, employment and economic progress. Typically, program staff reported that they helped parents with "survival" needs, such as food, housing, transportation, financial assistance, and so on during the first year. More personal or long-range aspects of family functioning (social participation, employment, family relations, family management) were later addressed after a trusting relationship had developed between staff and the families they served. Family needs, and thus staff emphasis in providing parent-oriented services, differed from year to year, depending on the family. Since the Home Start "treatment" varied so greatly by family, it is easy to understand how gains or changes for different aspects of parent functioning might be present but difficult to detect.

In addition, a parent interview of self-reported data was used to measure outcomes for parents. It seems likely that this interview was too broad to identify the individualized changes that may have occurred in families. Although the Follow-up interview attempted to collect information on such aspects of family functioning as social participation and contacts with family and social networks, such information was not collected in the original Home Start evaluation; thus, no baseline data were available on these variables. Moreover, changes in family management, crisis orientation, use of community or personal resources are difficult to define and measure and are not easily reported by parents in a one-hour parent interview.

While data do not appear to justify two years of program participation versus one, both Home Start staff and participating parents said that families should be in the program for more than one year or that length of program participation should be based on family need, interest and circumstances. During the original evaluation, staff often reported that changes in parents' ability to meet family needs with selective use of services, increased ability to cope with stressful situations or improved self-concept required to seek and/or obtain employment were only possible for some parents after two years in the program. That this progress did not show up in the parent interview data suggests that it may have been true for a subsample of families or that indicators of progress or change in these areas are not readily elicited in the one-hour parent interview. Both the nature of the Home Start treatment and the variation in family needs and rates of change suggest that additional interviews with emphasis on these difficult topics, or clinical interviews, might have provided a different, richer perspective about the effects of different lengths of participation in Home Start.

Table 4-6

One-Year vs. Two-Year Program Effects
(Home Start)

	One-Year			Two-Year					
	N	Mean	S.D.	N	Mean	S.D.	F	p	SUMMARY
SES									
Mother's Education	98	9.898	2.100	93	10.108	2.088	0.478	.490	NS
Per Capita Income	97	0.495	0.376	92	0.513	0.500	0.078	.780	NS
Two-Parent Families (%)	99	56.6	-	93	60.2	-	0.134(x^2)	.714	NS
EXPECTATIONS FOR AND ATTITUDES TOWARD SCHOOL									
Educational Achievement									
- Desired	98	4.082	1.345	94	4.011	1.403	0.128	.721	NS
- Expected	88	3.216	1.112	87	3.414	1.147	1.335	.250	NS
Satisfaction with School Progress	96	2.656	0.520	93	2.462	0.652	5.126	.025	HMS1>HMS2
Child Performance									
- Current	96	3.188	0.786	93	3.161	0.851	0.048	.826	NS
- Expected	97	3.361	0.544	92	3.413	0.558	0.425	.515	NS
Child Eagerness to Attend School									
- At Entry	98	3.643	0.865	94	3.702	0.701	0.271	.603	NS
- Current	97	3.660	0.734	94	3.436	0.911	3.501	.063	NS
SCHOOL INVOLVEMENT									
Teacher Contact (%)	97	80.4	-	93	84.9	-	0.401(x^2)	.527	NS
Number of Contacts	56	4.875	4.955	66	5.439	6.381	0.290	.591	NS

Table 4-6

(continued)

	One-Year			Two-Year					
	N	Mean	S.D.	N	Mean	S.D.	F	p	SUMMARY
SCHOOL INVOLVEMENT (Con'd)									
Attempts to Change Things at School (%)	19	57.9	-	28	82.1	-	2.225 (X^2)	.136	NS
Successful Attempts (%)	11	81.8	-	23	78.3	-	0.046 (X^2)	.831	NS
Classroom Visits (%)	94	38.3	-	90	45.6	-	0.719 (X^2)	.396	NS
PTA Membership (%)	99	27.3	-	92	23.9	-	0.134 (X^2)	.715	NS
PARENT-CHILD INTERACTION AND HOME ENVIRONMENT									
Reading with/to (%)	99	88.9	-	94	91.5	-	0.133 (X^2)	.716	NS
Frequency of Reading with/to	86	4.081	0.973	84	3.905	0.887	1.529	.218	NS
Frequency of Child Reading	99	5.242	1.302	93	5.335	1.119	0.409	.523	NS
Verbal Interaction (%)	98	1.122	0.330	94	3.128	0.387	1.271	.261	NS
Parent-Involvement Scale	102	2.980	1.282	94	3.128	1.090	0.745	.389	NS
Outdoor Play Materials	101	2.584	1.291	93	2.914	1.283	3.182	.076	NS
Indoor Play Materials	100	3.320	1.717	89	3.280	1.631	0.026	.873	NS
Educational TV (%)	102	77.5	-	94	69.1	-	1.330 (X^2)	.249	NS
CHILD HEALTH									
Length of Time Since Last Doctor Visit*	99	2.677	1.689	94	2.947	1.737	1.198	.275	NS
Preventive Reason (%)	98	36.7	-	92	39.1	-	0.036 (X^2)	.849	NS
General Health Status	99	3.182	0.595	94	3.192	0.676	0.011	.916	NS
School-Realted Problems (%)	99	20.2	-	93	29.0	-	1.573 (X^2)	.210	NS

* Low score is favorable

Table 4-6
(continued)

	N	Mean	S.D.	N	Mean	S.D.	F	p	SUMMARY
CHILD HEALTH (con'd)									
Length of Time Since Last Dentist Visit*	99	3.849	1.606	94	3.926	1.512	0.118	.732	NS
Preventive Reason (%)	88	64.8	-	91	63.7	-	0.000(X^2)	.991	NS
MATERNAL HEALTH									
Length of Time Since Last Doctor Visit*	99	2.616	1.701	94	2.362	1.658	1.106	.294	NS
General Health Status	99	2.687	0.724	94	2.670	0.694	0.027	.871	NS
USE OF COMMUNITY RESOURCES									
Food Stamps (%)	97	47.4	-	91	42.9	-	0.232(X^2)	.630	NS
Welfare (%)	99	31.3	-	92	35.9	-	0.263(X^2)	.608	NS
Medicaid (%)	99	27.3	-	92	29.3	-	0.025(X^2)	.875	NS
PARTICIPATION IN THE COMMUNITY									
Membership in Organizations	99	1.172	1.079	92	1.163	1.243	0.003	.959	NS

* Low score is favorable

CHAPTER V

ANALYSIS OF CHILD OUTCOMES

Potential long-term impacts of the Home Start program on the child were assessed in three domains: health, academic performance, and adjustment to school. Health measures were part of the parent interview and were discussed in the previous chapter. Academic performance and school adjustment were to be measured both by direct test and by teacher report. Federal approval of the teacher questionnaire, however, was delayed more than one year; the children were no longer in the same class as when they had been tested. Since retrospective ratings would have been of dubious reliability, the teacher questionnaire was not administered. This chapter, therefore, reports the results only of child tests. One unfortunate consequence of not having teacher reports is that retention in grade and placement in special classes could not be investigated. This was disappointing, since these indicators have been used successfully by a number of researchers (see Lazar et al., 1977) to demonstrate long-term effects of several preschool programs.

The chapter is organized into four sections. Section 5.1 contains the results of psychometric analyses of each test and correlational analyses relating the tests to each other. Sections 5.2, 5.3, and 5.4 present the results of analyses contrasting Home Start with the comparison group, Home Start with Head Start and one-year with two-year Home Start, respectively. In each section, findings regarding homogeneity of regression and equivalence of

means for the covariables precedes findings regarding the outcome measures themselves. Discussion of the Followup Study and implications for future program evaluations are presented in Chapter 6.

5.1 Psychometric Analysis of the Child Test Data

A total of 383 children were tested in the Followup Study: 58 kindergartners, 216 first graders, 104 second graders, and 5 third graders who were excluded from all analyses. The test battery consisted of:

- the Mathematics and Reading Recognition subscales of the Peabody Individual Achievement Test (PIAT MATH and READ), a nationally normed standardized test of these skills;

- the Stephens-Delys Reinforcement Contingency Interview (SDRCI), an 18-item measure of the child's awareness and belief that his or her behavior has a reinforcing effect on others (one aspect of locus of control);

- the Purdue Social Attitude Scale for Primary Grade Children (PSAS), a 30-item measure of the child's general social attitude; and

- the Preschool Interpersonal Problem Solving Test (PIPS), a seven-item measure of the ability to generate multiple solutions to a variety of social predicaments.

Testing spanned two days, the same tester administering all tests to any given child. After each session, the child was rated on the Pupil Observation Checklist (POCL), a nine-item scale with Task Orientation and Sociability subscales.

Different testers were used in the six sites. Test data were collected over a period of five months.

Means, standard deviations, and alpha coefficients (estimating reliability) are presented in Table 5-1 for each grade and for the total sample. Table 5-2 presents intertest correlations. Results for the POCL are not presented in these summaries because interrater reliability for this measure appears to be low, as discussed later. The following general conclusions may be drawn from the psychometric analyses:

- Reliability was excellent for all tests in which it could be assessed, ranging from .82 to .94.* Moreover there was, except for the PIPS, substantial variation in test scores, which (in light of the high reliability coefficients) indicates that the test battery had a good ability to distinguish between individual children.

- Despite a floor effect for the Peabody Individual Achievement Test, there was no strong evidence that any of the instruments were inappropriate for the kindergartners tested. First, test reliability was homogeneous across grades; and second, missing, unscorable, or otherwise invalid responses did not occur disproportionally among the kindergartners.

- Except for a moderately strong correlation between the PIAT mathematics and reading scores, the tests were relatively independent of one another. This strongly suggests that the SDRCI, the PSAS, and the PIPS are non-cognitive instruments

*Coefficient alpha is inappropriate for the PIPS as scored in this study. Other methods of assessing reliability (such as test-retest correlation) require data which were not available.

Table 5-1

Test Means, Standard Deviations and Coefficient Alphas
For Each Grade and For the Total Sample*

GRADE	N	MATH $\bar{X}$	MATH (SD)	READ $\bar{X}$	READ (SD)	SDRCI $\bar{X}$	SDRCI (SD)	PSAS $\bar{X}$	PSAS (SD)	PIPS $\bar{X}$	PIPS (SD)
K	52-58	13.3	(4.0)	15.6	(4.3)	8.8	(5.0)	62.5	(20.7)	4.2	(1.5)
G1	190-216	20.1	(6.3)	24.1	(6.0)	11.3	(4.6)	66.9	(17.9)	4.3	(1.6)
G2	94-104	30.1	(9.6)	32.1	(8.8)	12.4	(4.0)	66.5	(15.9)	4.2	(1.5)
TOTAL	336-378	21.8	(9.0)	25.1	(8.5)	11.2	(4.6)	66.1	(17.9)	4.3	(1.6)

GRADE	MATH ALPHA	READ ALPHA	SDRCI ALPHA	PSAS ALPHA	PIPS ALPHA
K	.83	.91	.88	.89	
G1	.90	.92	.87	.87	NOT APPLICABLE
G2	.93	.94	.82	.85	
TOTAL	.94	.94	.87	.87	

*Key to Variables and minimum-maximum possible scores:
- MATH: Peabody Individual Achievement Test, Mathematics (0-84 to accommodate grades K-12)
- READ: Peabody Individual Achievement Test, Reading Recognition (0-84 to accommodate grades K-12)
- SDRCI: Stephens-Delys Reinforcement Contingency Interview (0-18)
- PSAS: Purdue Social Attitude Scale (30-150: 30 items each scaled 1-5)
- PIPS: Preschool Interpersonal Problem Solving Test (1-7)

Differences between grade means are significant ($p<.01$) only for MATH, READ, and SDRCI.

Table 5-2

Intertest Correlations

	MATH	READ	SDEL	PSAS	PIPS	
MATH		.71	.25	.07	.09	
READ			.19	.04	.07	N's = 287-370
SDEL				.01	.04	$r \geq .14$ significant
PSAS					.04	at $p \leq .01$
PIPS						
AGE*	.51	.52	.11	.01	-.09	

*AGE is age at time of testing.

GRADE		READ	SDEL	PSAS	PIPS	
	MATH	.46	.03	-.08	-.11	
K	READ		.02	.05	-.13	N's = 50-56
	SDEL			-.04	-.04	$r \geq .33$ significant
	PSAS				-.28	at $p \leq .01$
	MATH	.56	.17	.04	.19	
G1	READ		.12	.01	.01	N's = 183-211
	SDEL			.06	.08	$r \geq .20$ significant
	PSAS				.11	at $p \leq .01$
	MATH	.52	.19	.15	.04	
G2	READ		.02	.01	.22	N's = 92-102
	SDEL			-.12	-.01	$r \geq .25$ significant
	PSAS				.06	at $p \leq .01$

and that each measures a different construct. Further construct validation, however, was not possible since the teacher questionnaire could not be administered and no other criterion measures were available. The construct validity of the PSAS and the PIPS, in particular, remains a matter of face validity, although the alpha coefficients indicate that each test measures some unitary construct with a high degree of accuracy.

The remainder of this section summarizes the psychometric findings for each instrument in the test battery. A more complete discussion is presented in Appendix A.

The PIAT suffered from a "floor" effect. That is, it did not differentiate as well among children scoring at its lower end as among children higher in achievement. This can be seen in Table 5-1 as an increasing standard deviation from kindergarten through second grade, and results from an insufficient number of items appropriate for very young children and low-achieving children. This was not a substantial problem for the Followup Study, however, because the comparison group was match-sampled within classrooms, because a gain-score design is not involved, and because the dispersion in kindergarten PIAT scores, even though restricted, was still sufficient given the high reliability of the test.

Not only internal consistency, but also interscorer reliability was high for the SDRCI. An AAI coder and a High/Scope coder agreed on 90 percent of the items in 24 protocols, and their total scores correlated .92. Moreover, the two means were identical. There was, however, a ceiling effect with SDRCI scores: fully 6 percent of the kindergartners, 14 percent of the first-graders, and 17 percent of the second graders scored 17 or 18 on the 18-item test. Although this is a rather pronounced effect, it was tolerable for the same reasons that the PIAT's floor effect was tolerable.

A major question regarding the PSAS was whether the three categories of items (Home, Peer, and School) should be used as subscale measures of distinct social attitude constructs. Judging from the results of these analyses, they should not. First, the so-called subscales correlated with each other at about the same level as their internal consistencies, which is to say they intercorrelated about as highly as they theoretically could given their reliability. Second, the subscales behaved almost identically in their relationships to the other instruments, which is to say that none of them correlated significantly. Third, the subscale means sometimes differed from each other, but not in a consistent pattern within all three grades. It appears that the PSAS is best scored as a single measure of general social attitude. Such a construct, while interpretable, fits less readily into a theoretical framework than the hoped-for subscale constructs would have.

Internal consistency estimates of reliability are inappropriate for the PIPS, but the authors' manual reports 96 percent interscorer agreement and test-retest coefficients of .72 for a one-week span and .59 for a 3-5 month span. These coefficients, however, were based on a scoring strategy which allowed a maximum score of over 14 points, and presumably did not suffer attenuation from restricted variance. In the present study, where the maximum score is 7 and the minimum is 1, there may be a problem in this regard. Since the distribution of scores is necessarily compressed, the power of the PIPS to detect group differences is not likely to be high. On the positive side, PIPS correlations with PIAT Math and Reading scores, as mentioned above, were nonsignificant and often near zero. These results support the manual's claim that the PIPS is unconfounded by cognitive ability or achievement beyond a certain minimum capacity to understand the task.

The Pupil Observation Checklist was completed after each of the two testing sessions but the tester was the same in both cases. Followup Study data, therefore, do not permit the assessment of interrater reliability. Analysis of POCL data from the National Day Care Study, however, casts serious doubt on the interrater reliability of this instrument. At one point in that study, the same tester was used in two testing sessions, and a different tester was used in a third. The correlation for sociability ratings provided by different testers was .44, which is the best available estimate of the upper limit on POCL interrater reliability. (As in the Followup Study, positive response bias was pronounced for the Task Orientation subscale--so much so that interrater reliability was not investigated.) Actual reliability could be even lower in the Followup Study because the wide variety of conditions in which tests were administered might have increased the error variance. Because of this, it was decided not to use the POCL as either an outcome or a descriptive measure.

5.2 Home Start vs. the Comparison Group

Investigation of Homogeneity of Regression and Equivalence of Covariate Means

The importance of meeting the homogeneity of regression assumption underlying the analysis of covariance was discussed in Section 1.3, where it was stated that this assumption was not met in the Followup Study. Table 5-3 lists all of the significant covariables of each of the outcome measures, separately for the Home Start and comparison groups. This list represents the end result of a series of multiple regressions which searched for covariables among a set of over 30 background variables from the parent interview.

Included in this set were various measures of household size; child's health; child's TV watching and frequency of being read to; parental involvement with school and schoolwork; parental expectations for the child's education; parental education, employment status, income, and ethnicity; frequency of moving and ownership or rental of housing; and the age of the child at the time of testing.

It was necessary to pool all three grades for these analyses in order to achieve adequate statistical power to specify the covariable model reliably. The variables in Figure 5-3 are all those which were significantly related to an outcome measure ($p \leq .05$) in the multiple regressions.* For each outcome measure and each group, covariables are listed in decreasing order of their contribution in accounting for variance in the child test scores. Heterogeneity of regression is apparent in these results. For example, only age at testing was significantly related to math achievement in the Home Start group, whereas parental expectation for education, ethnicity, and the child's rated health were also predictive in the comparison group.

The most remarkable finding in these analyses was that ethnicity, parental education, income, and employment status were almost completely unrelated to any of the outcome measures in the Home Start group. Only for reading

*Absence of a variable does not mean it was uncorrelated with any of the outcome tests, only that its partial correlation was nonsignificant after more strongly correlated variables entered the multiple regression. It should be mentioned that ethnicity is in part a surrogate for SES in these regressions since there were differences in per capita income, years of education and proportion renting between the white and nonwhite families in the Followup Study.

Table 5-3

Covariables Predictive of Child Outcome Measures ($p \leq .05$)
In the Home Start and Comparison Groups*

HOME START		COMPARISON
Age at Testing	MATH ACH.	Age at Testing Expected Level of Child's Educ. Ethnicity Child's Rated Health
Age at Testing Present Eagerness for School Max. Educ. Level of Wage Earners	READING ACH.	Age at Testing Max. Educ. Level of Wage Earners Ethnicity Child's Rated Health
No Significant Predictor	SDRCI	Ownership vs. Rental of Housing
No Significant Predictor	PSAS	Other Adult's Level of Employment Frequency of Reading to Child
Eagerness for School Before Starting	PIPS	Ethnicity

* For each group and each outcome measure, covariables are listed in decreasing order of their contribution in accounting for variance in the child test scores. Covariables were obtained from the parent interview. All three grades (K-2) were pooled for this analysis; N's range from 109-129 in each group for the various multiple regressions. It should be mentioned that ethnicity is in part a surrogate for SES in these regressions since there were differences in per capita income, years of education and proportion renting between the white and nonwhite families in the Followup Study.

achievement was any relationship found, and then only for education. Given the well-documented relationship between indicators of socioeconomic status and school achievement, it is very tempting to speculate that the lack of such relationships in the Home Start group is evidence of a positive treatment effect. As noted in Section 1.3, however, this cannot be confirmed given the limitations of the study design.

Table 5-4 presents findings concerning the nonequivalence of group means with respect to the covariables listed in Table 5-3. No significant differences between the Home Start and comparison groups were found for age at testing, eagerness for school (before starting or currently), frequency of reading to the child, proportion owning their own homes, or proportion nonwhite. For all other variables, the difference was significant ($p \leq .05$) and "favored" the comparison group.

Finally, Figure 5-1 illustrates the heterogeneity of regression and nonequivalence problem by showing for each group the actual relationship of one covariable with math achievement and another covariable with reading achievement.* Each graph represents an empirical finding which corresponds to the hypothetical illustration presented earlier in Figure 1-5. As noted in Chapter 1, the magnitude and direction of the difference between the groups depends upon the arbitrary choice of a point of reference for the covariate axis because the regression lines are not parallel. Even if an acceptable point of reference were decided upon, however, the group difference measured

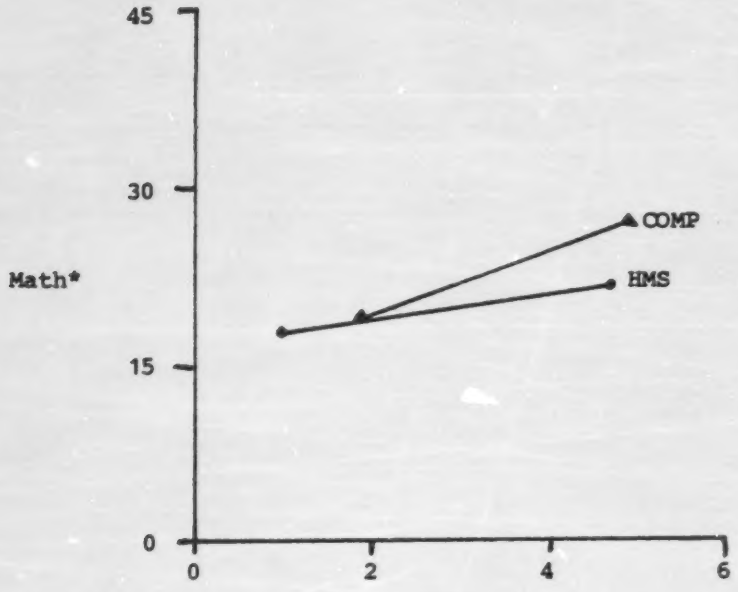
*In each regression one or two other, more predictive covariables have been partialled out in order to display the unique relationship of the covariable in question when these others are controlled.

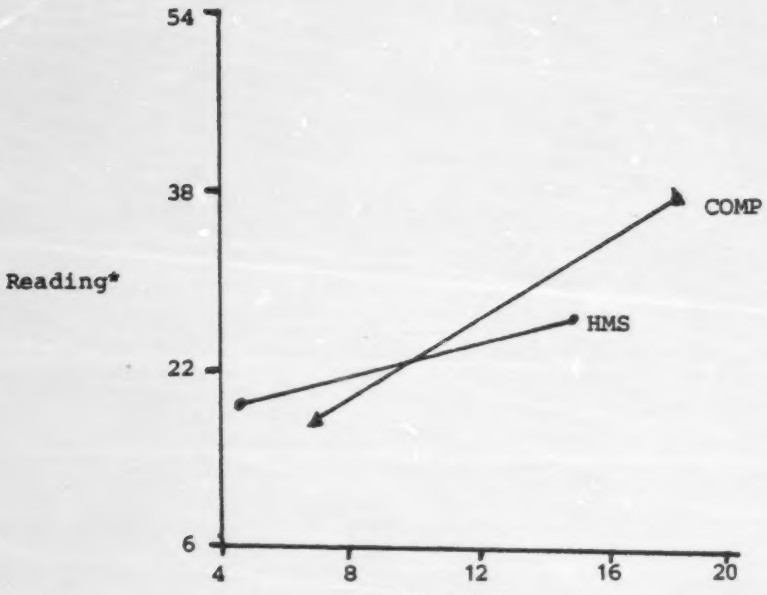
Table 5-4
Analyses of Variance of Differences in Covariable Means Between the Home Start and Comparison Groups

Variable	Home Start	Comparison	F	df	p
Age at Testing	7.3	7.3	<1	248	-
Expected Level of Educ.	2.6	3.0	14.8	266	<.001
Child's Rated Health	3.16	3.38	8.4	267	.004
Max. Educ. Level of Wage Earners	10.2	12.2	61.1	265	<.001
Present Eagerness for School	3.68	3.70	<1	266	-
Other Adult's Level of Employment	.65	.89	11.6	261	.001
Frequency of Reading	3.82	3.86	<1	261	-
Eagerness for School Before Starting	3.74	3.78	<1	266	-
Proportion Non-White	.30	.22	1.9	243	.165
Proportion Owning	.63	.52	3.3	250	.069

Figure 5-1

Heterogeneity of Regression and Nonequivalence in Means for Two Covariables of Math and Reading Achievement: Home Start Group vs. Comparison Group





*Age at testing has been partialled out of the regression of math achievement on parental expectations for education of the child. Age and the child's eagerness for school have been partialled out of the regression of reading achievement on years of education of the wage earners.

at that point would not constitute a test of the effectiveness of Home Start because the comparison group's line cannot be relied upon as a model of the null hypothesis. There simply is no reasonable confident way of hypothesizing what the regression line would have been for the Home Start families had they never entered Home Start.

Descriptive Analyses of Child Outcome Measures

In this section we present information on the mean performance of the Home Start and comparison groups on the child outcome measures. It should be clear from Section 1.3 and the preceding section that this is presented for descriptive purposes only.

Table 5-5 shows means and standard deviations in which all three grades were pooled. As expected from the nonequivalence in SES, the comparison group means appear higher than the Home Start group on math and reading achievement. Differences appear to be minimal, however, on the noncognitive measures; in fact the means were virtually identical for the two groups in each instance. At first it is tempting to view this as a positive result: despite heterogeneity of regression, shouldn't it be encouraging that there was no apparent difference between the groups on noncognitive measures when we know that the comparison group benefitted from a higher socio-economic status (SES)? The answer is that it depends on whether one expects SES to be related to these outcome measures. If no such relationship is expected, the apparent lack of group differences is not necessarily a positive finding.

Table 5-5

Descriptive Data for the Home Start
And Comparison Groups on the Child Outcome Measures:
Kindergarten, First, And Second Grades Pooled

	HMS	COMP
MATH	20.1 (7.67)	23.3 (8.94)
READING	23.7 (7.70)	27.2 (9.27)
SDRCI	11.1 (4.98)	11.0 (4.52)
PSAS	65.2 (17.5)	66.6 (16.7)
PIPS	4.25 (1.57)	4.25 (1.60)
AGE	7.31 (0.67)	7.32 (0.81)

It is not clear, however, whether such a relationship should be expected. On the one hand, for example, the authors of the SDRCI and the PSAS have cited differences between groups varying in SES as evidence of the construct validity of these measures. On the other hand, parental education and family income were not very predictive of the noncognitive measures in the comparison group. Education and per capita income each correlated .18 with SDRCI, for example, whereas ownership vs. rental of housing correlated .35. PSAS correlations with education and income were only .01 and -.03, respectively. These findings suggest that SES (over the range measured in this study) is not related to the three noncognitive child tests. In view of this and the fact that no tests of significance could be conducted, a conservative stance seems prudent: no conclusion can be made regarding the programs' long-term effect on children's performance.

Table 5-6 presents descriptive data on separate within-grade analyses comparing the Home Start and comparison groups on math and reading achievement. Although it is tempting to interpret the grade-to-grade variation in the findings this would not be justified.

Table 5-7 reports within-grade math and reading performance for the Home Start group in terms of percentiles based on the national norming sample for the PIAT. That is, these percentiles were obtained by referring median scores for the group to the norm tables in the PIAT manual. Norms for the last third of the year were used, since that is when testing took place. It must be stressed that these percentiles are in some respects inappropriate,

Table 5-6

Descriptive Data on the Home Start And Comparison Groups on Math and Reading Achievement Within Each Grade

	HMS	COMP
KG MATH	13.3	13.2
	(3.42)	(3.70)
G1 MATH	18.1	22.3
	(5.09)	(6.46)
G2 MATH	27.9	30.5
	(7.40)	(8.84)
KG READING	15.7	15.8
	(3.78)	(2.78)
G1 READING	22.7	26.1
	(4.89)	(6.25)
G2 READING	30.2	34.9
	(8.48)	(9.24)

Table 5-7

Percentile Rank of Median Home Start
Math and Reading Achievement Scores by Grade*

	K	G1	G2
MATH	53	38	49
READING	72	44	56

*Obtained by referring median scores for the Home Start group to the norm tables in the PIAT manuals for the last third of the school year (during which testing took place).

since they compare the Home Start Followup sample to a nationally representative sample which is much higher in socio-economic status. If a norm group equivalent in SES could have been used, the percentiles in Table 5-7 would have been higher.

The reason Table 5-7 is interesting is that the percentile ranks of the Home Start group are reasonably good despite this fact. Although first grade performance is lower than the national average (though not too much lower, for reading achievement), Home Start second graders performed quite "competitively" with respect to the national norm sample.* In fact, the second grade percentiles of 49 and 56 for math and reading achievement, respectively, are the clearest evidence available in the Followup Study that the Home Start program had a positive long-term effect. The percentile data are also encouraging because they show no evidence of a so-called washout effect; there is no steady decline in performance from kindergarten through second grade. While it is true that the data are not longitudinal, that testing was not blind, and that the test procedures may have resulted in higher scores on the average than in the national norming study,** a positive view of these results nonetheless seems justified.

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*The kindergarten percentiles should not be interpreted too enthusiastically since they are based on a sample of only 20 children and since very small fluctuations in raw scores produce large fluctuations in percentiles at this end of the distribution. The percentile equivalent for a reading score of 8, for example is 16, while the percentile for a score of 10 is 29. The standard error in estimating true percentile rank, therefore, would be quite large for the kindergarten sample.

**The first and second grade reading percentile scores for the comparison group for example, were 81 and 77, which seems quite high given the background characteristics of that group.

5.3 Home Start vs. Head Start

Investigation of Homogeneity of Regression and Equivalence of Covariate Means

Potential covariables for these analyses were not limited to the Followup Study parent interview, since data from the original evaluation were available for both groups. The search for covariables and the investigation of homogeneity and equivalence focused on Spring 1975 data from the child test battery [Preschool Inventory (PSI), Denver Developmental Screening Test (DDST), Schaefer Behavior Inventory (SBI), the multiple-rating High/Scope Home Environment Scale, and the Eight-Block Test of maternal teaching skills.]* One-year and two-year groups were pooled in order to increase sample size.

Table 5-8 lists the significant covariables which emerged from these analyses. As in Table 5-3, covariables are listed in decreasing order of their contribution in accounting for variance in the child test scores. Heterogeneity of regression is apparent from the fact that different covariables emerged in each group and from the fact that the Preschool Inventory had significantly different regression coefficients in each group.

*A description of these measures can be found in Love, J. M., Nauta, M. J., et al, National Home Start Evaluation: Final Report--Findings and Implications. High/Scope Educational Research Foundation and Abt Associates Inc., 1976. Spring 1975 was chosen over Fall 1974 as a source of covariables because the correlations with Followup Study test data were higher for the later time point and because the original evaluation had found the HMS and HDS groups to be essentially equivalent with respect to Spring 1975 measurement.

Figure 5-8

Covariables Predictive of Outcome Measures ($p \leq .05$)
In the Home Start and Head Start Groups*

HOME START		HEAD START
Preschool Inventory Age at Testing Ethnicity DDST Gross Motor	MATH ACH.**	Preschool Inventory SBI Task Orientation Mother's Supportiveness DDST Gross Motor
Preschool Inventory Age at Testing	READING ACH.	Preschool Inventory
Preschool Inventory	SDRCI	Ethnicity
Mother's Punitiveness	PSAS	No Significant Predictor
No Significant Predictor	PIPS	Per Capita Income

* For each group and each outcome measure, covariables are listed in decreasing order of their contribution in accounting for variance in the child test scores. Except for age at testing and ethnicity, covariables were obtained from Spring 1975 measurements in the original evaluation. All three grades (K-G2) were pooled for this analysis; N's range from 127 to 186 in the Home Start group and 39 to 45 in the Head Start group for the various multiple regressions.

**There is a significant difference ($p < .05$) between the Home Start Preschool Inventory coefficient and the Head Start coefficient. The Head Start group's is larger.

Investigation of group differences in covariable means showed the Home Start and Head Start groups to be essentially equivalent. Only ethnicity reflected a significant difference, the proportion of nonwhite families being higher in the Head Start group (51 vs. 34 percent).

Descriptive Analyses of Child Outcome Measures

As with the Home Start vs. Comparison group analyses, Home Start vs. Head Start contrasts on the child outcome measures are limited to descriptive analyses because of heterogeneity of regression.

Table 5-9 presents the mean performance of each group on each of the measures. Although analyses could not be conducted, it is obvious that there are no major differences in the mean scores of the two groups.

Table 5-9

Descriptive Data for the Home Start and Head Start Groups on the Child Outcome Measures: Kindergarten, First, and Second Grades Pooled*

	HMS	HDS
MATH	20.1 (8.38)	21.1 (7.77)
READING	24.2 (8.30)	22.2 (4.71)
SDRCI	11.1 (4.86)	12.5 (3.72)
PSAS	66.4 (18.4)	63.0 (18.6)
PIPS	4.27 (1.59)	4.20 (1.56)
AGE	7.31 (0.71)	7.37 (0.44)
N's	163-196	34-46

5.4 One-Year vs. Two-Year Home Start: Fall 1973 Covariables

In addition to the background data from the Followup Study Parent Interview, there are two potential sources of covariables for the one- vs. two-year Home Start analyses. They are the Fall 1973 and the Spring 1975 time points for data collected in the original evaluation, and each has its advantages and disadvantages.

The principal advantage of the Fall 1973 time point is that this is a true pretreatment baseline for the one- and two-year groups. Furthermore, families participating as of the Fall 1973 startup of the original evaluation had been randomly assigned to the two groups. The disadvantage in using this time point is that attrition was especially severe in the one-year group during the first year of the original study.* Consequently, only 55 one-year children with Fall 1973 data were tested in the Followup Study, compared to 92 two-year children. This difference in the attrition rate also undercuts the value of the original random assignment to groups.

The advantage in using the Spring 1975 time point is that more families are available for these analyses. To compensate for the high first-year attrition, additional families were recruited in the fall of

*Recall that this group served as a control group during the first year of the original evaluation, then became a one-year Home Start group in the second year. See Figure 1-1.

1974 to participate in the one-year Home Start treatment, so that 101 one-year children are available for followup analyses if Spring 1975 is chosen as the source of covariables.* This represents a substantial increase in statistical power over the Fall 1973 sample.

The disadvantage in using Spring 1975 data is that this was a post-treatment time point. Any differences favoring the two-year group at that time would represent treatment effects rather than the usual problem of a nonequivalent control group. If such differences were found, it would be incorrect to control for them in conducting the followup analyses.

This disadvantage, however, is only a potential one, and not an inevitable one. The original evaluation found no difference between the one- and two-year groups, so there was reason to believe that Spring 1975 might prove appropriate as a source of covariables. As discussed in Section 5.5, this turned out to be the case: the one- and two-year children followed up and tested for math and reading achievement turned out to be equivalent with respect to the Spring 1975 covariables of these measures.

This section presents the results of the one-year vs. two-year Home Start analyses using Fall 1973 covariables. Section 5.5 presents the results using Spring 1975 covariables. As will be seen, the same conclusion was reached in both instances.

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*Additional families were also recruited for the one-year Head Start group, but even pooling all groups, only 46 Head Start families were tracked. Consequently, it was not possible to use Fall 1973 covariables for the HMS-HDS comparison, because the HDS sample would have been prohibitively small.

Investigation of Homogeneity of Regression and Equivalence of Covariate Means

Table 5-10 lists the covariables which emerged from an examination of the Fall 1973 test data and the Followup Study parent interviews. Although heterogeneity of regression is a problem for the SDRCI, the PSAS, and PIPS, it is not a serious problem for math and reading achievement. The Preschool Inventory can be eliminated as a covariable of mathematics with the loss of only three percentage points in accounting for the variance in math scores. The DDST Language scale can be used in lieu of the PSI and age at testing as a covariable of reading achievement, although substantial predictive power is lost (19 percent vs. 43 percent of the variance in reading scores being accounted for). With these adjustments, the covariable models for mathematics and reading are homogeneous.

Table 5-11 presents the findings concerning group differences in the covariate means. The results are presented in terms of each outcome variable, and only children with valid scores on the outcome variable and its covariables were included in that respective set of analyses. This was necessary in order to maintain consistency with the samples actually used in the outcome analyses. There are four noteworthy points concerning these results:

- Treatment effects on math achievement can only be evaluated by means of analysis of covariance because of the group difference on the DDST Fine Motor scale.
- Treatment effects on reading achievement can be evaluated via simple analysis of variance (since the groups are equivalent with respect to DDST Language and the Fine Motor scale is not a covariable), but analysis of covariance would provide greater statistical power.

Table 5-10

Fall 1973 Covariables Predictive of Child Outcome Measures ($p \leq .05$) in the One-Year and Two-Year Home Start Groups*

ONE-YEAR HMS		TWO-YEAR HMS
DDST Language Preschool Inventory DDST Fine Motor	MATH ACH.**	DDST Language DDST Fine Motor
Preschool Inventory Age at Testing or DDST Language	READING ACH.***	DDST Language
Mother's Involvement with Household Tasks DDST Language	SDRCI	Preschool Inventory
No Significant Predictor	PSAS	Mother's Punitiveness
No Significant Predictor	PIPS	SBI Hostility-Tolerance

*For each group and each outcome measure, covariables are listed in decreasing order of their contribution in accounting for variance in the child test scores. Covariables were selected from Fall 1973 measures in the original evaluation and from the Followup Study parent invterview. N's range from 41 to 54 for the One-Year group and from 58 to 91 for the Two-Year group.

**Subsequent analysis revealed that the Preschool Inventory could be eliminated as a covariable of math achievement in order to create a homogeneous covariable model. The loss in predicting math scores in the one-year group was only three percentage points: 58 percent vs. 55 percent of the variance.

***The Preschool Inventory and age at testing account for 43 percent of the variance in reading scores in the one-year group, while the DDST Language scale accounts for only 19 percent. Use of the latter, however, results in a homogeneous covariable model.

Table 5-11

Analyses of Variance of Differences in Fall 1973 Covariable Means Between the One-Year and Two-Year Home Start Groups*

Math Covariables	One-Year	Two-Year	F	df	p
DDST Language	26.8	26.5	<1	129	--
DDST Fine Motor**	0.17	-0.10	3.4	129	.07
Reading Covariable					
DDST Language	25.9	25.4	<1	129	--
SDRCI Covariables					
Preschool Inventory	10.9	9.9	1.1	90	.31
Mother's Involvement with Household Tasks	9.8	10.6	2.7	90	.11
DDST Language	27.5	27.4	<1	90	--
PSAS Covariable					
Mother's Punitiveness	4.9	5.1	<1	144	--
PIPS Covariable					
SBI Extroversion-Introversion	22.1	22.8	<1	138	--

*Only children with valid scores on the outcome variable and its covariables were included in that respective set of analyses, in order to maintain consistency with the outcome analyses. N's were 131, 131, 92, 146, and 140 for the mathematics, reading, SDRCI, PSAS and PIPS covariable models, respectively.

**DDST Fine Motor residual scores (controlling for DDST Lanuage) are reported here; they were standardized with a mean of zero for the pooled groups.

- The combination of heterogeneity of regression and non-equivalence on "mother's involvement" (even though the non-equivalence is only marginally significant) render treatment effects on the SDRCI impossible to evaluate.

- Because the groups are equivalent with respect to covariables of the PSAS and the PIPS, analysis of covariance is not required to adjust for pretreatment differences. Treatment effects on these outcomes, therefore, may be evaluated via analysis of variance and the heterogeneity of regression problem thus avoided.

Group Differences in Child Outcome Measures

The comparison of the one-year and two-year Home Start groups is the first component of the Followup Study in which tests for group differences in outcomes (except for the SDRCI) are legitimate tests of differences in treatment effects. Table 5-12 presents the results of these analyses: analyses of covariance for math and reading achievement and analyses of variance for the PSAS and the PIPS. Analysis of variance of math and SDRCI scores reported in Table 5-12 are strictly descriptive, since the groups are not equivalent with respect to the covariables. Analysis of variance of reading scores is a genuine test of treatment effects, but is not as powerful as the analysis of covariance.

None of the tests in Table 5-12 are even marginally significant. As far as analyses using Fall 1973 covariables are concerned, it does not appear that the two-year group was subject to latent treatment effects in the interim since the original evaluation.

Table 5-12

Analysis of Variance and Covariance Comparing the One-Year And Two-Year Home Start Groups on the Child Outcome Measures: Kindergarten, First and Second Grades Pooled, Fall 1973 Covariables*

Variable		One-Year	Two-Year	F	df	p
MATH:	ANOVA	22.33 (7.64)	22.40 (9.02)	<1	129	-
	ANCOVA	22.57	22.88	<1	127	-
READING:	ANOVA	26.37 (6.93)	26.38 (9.06)	<1	129	-
	ANCOVA	26.02	26.60	<1	127	-
SDRCI		11.7 (4.67)	11.7 (4.61)	<1	90	-
PSAS		64.7 (17.3)	67.8 (18.6)	1.0	144	-
PIPS		4.24 (1.68)	4.29 (1.67)	<1	138	-

*The ANOVA result for reading achievement is an appropriate test of a treatment effect, since the groups were equivalent on the DDST Language covariable. ANCOVA results represent a better test, however, because of increased statistical power. ANCOVA is the only appropriate test of a treatment effect on mathematics achievement because the groups, though equivalent with respect to the DDST Language covariable, were not equivalent with respect to the DDST Fine Motor covariable. SDRCI results are strictly descriptive due to heterogeneity of regression and group nonequivalence. ANOVA results for the PSAS and the PIPS are the only appropriate tests of treatment effects because the groups were equivalent with respect to the covariable, but exhibited heterogeneity of regression.

5.5 One-Year vs. Two-Year Home Start: Spring 1975 Covariables

Investigation of Homogeneity of Regression and Equivalence of Covariate Means

As mentioned previously, the Spring 1975 test point in the original evaluation was an alternative source of covariables for the one- vs. two-year Home Start analyses.* Table 5-13 lists the covariables which emerged from this search.

Except for the SDRCI, heterogeneity of regression is not a practical problem for this component of the Followup Study. Regression coefficients for both mathematics and reading achievement are homogeneous across groups. The DDST Language covariable, which accounts for only three percent of the residual variance in reading scores in the two-year group, can be dropped as a covariable of reading achievement and the regression coefficients are still homogenous across the two groups. No covariables at all were found for the PSAS and the PIPS, so that a simple analysis of variance suffices to test for treatment effects with these measures.

Figure 5-14 presents the findings concerning group differences in the covariate means. The results are presented in terms of each outcome measure for which covariables were found, and only children with valid scores for each outcome variable and its covariables were included in that set of analyses. This was necessary in order to maintain consistency with the outcome analyses.

*This approach was possible, however, only because the HMS2 and HMS1 groups tracked for the Followup Study turned out to be equivalent with respect to the Spring 1975 data, as will be shown.

Table 5-13

Spring 1975 Covariables Predictive of Child Outcome Measures ($p \leq .05$) in the One-Year and Two-Year Home Start Groups*

ONE-YEAR HMS		TWO-YEAR HMS
Preschool Inventory Age at Testing	MATH ACH.	Preschool Inventory Age at Testing
Preschool Inventory Age at Testing	READING ACH.**	Preschool Inventory Age at Testing DDST Language
Ethnicity Child's TV Watching	SDRCI	Preschool Inventory SBI Hostility-Tolerance Mother's Involvement with Household Tasks Max. Educ. of Wage Earners
No Significant Predictor	PSAS	No Significant Predictor
No Significant Predictor	PIPS	No Significant Predictor

* For each group and each outcome measure, covariables are listed in decreasing order of their contribution in accounting for variance in the child test scores. Covariables were selected from Spring 1975 measures in the original evaluation and from the Followup Study parent invterview. N's range from 62 to 85 for the One-Year group and from 71 to 92 for the Two-Year group.

**Subsequent analysis revealed that the DDST Language scale could be eliminated as a covariable of reading achievement in order to produce a homogeneous covariable model. The loss in predicting reading scores in the two-year group was only three percentage points: 49 percent vs. 56 percent of the variance.

Table 5-14

Analyses of Variance of Differences in Spring 1975 Covariable Means Between the One-Year and Two-Year Home Start Groups*

Math Covariables	One-Year	Two-Year	F	df	p
Preschool Inventory	19.4	19.8	<1	138	-
Age at Testing	7.3	7.4	1.0	138	-
Reading Covariables					
Preschool Inventory	19.2	19.7	4	139	-
Age at Testing	7.3	7.4	1.1	139	.30
SDRCI Covariables					
Proportion Nonwhite	.33	.37	<1	138	--
Child's Level of TV Watching	1.75	1.60	1.2	138	.27
Preschool Inventory	18.6	21.2	5.5	138	.02
SBI Hostility-Tolerance	18.8	17.8	<1	138	--
Mother's Involvement with Household Tasks	9.9	10.1	<1	138	--
Max. Educational Level of Wage Earners	10.7	10.6	<1	138	--

*Only children with valid scores on the outcome variable and its covariables were included in that respective set of analyses, in order to maintain consistency with the outcome analyses. N's were 140, 141, and 140 for the mathematics, reading, and SDRCI covariable models, respectively.

The fact that the one-and two year groups are equivalent with respect to the math and reading covariables is extremely important, since only under these conditions is the use of Spring 1975 covariables appropriate. If the two-year group had performed higher, this would have reflected an effect of the second year of treatment; it would, of course, have been completely inappropriate to adjust for such a difference when examining followup data. As Table 5-14 shows, however, no such differences were found for the math and reading covariables--which is consistent with the fact that one- vs. two-year differences were also not found in the original evaluation.

Group Differences in Child Outcome Analyses

As noted in the previous section, analysis of variance is sufficient to test for differences in the PSAS and the PIPS because no covariables were identified for these measures. Analysis of variance is also appropriate for the achievement measures, since the HMS2 and HMS1 groups were found to be equivalent with respect to the Preschool Inventory and age-at-testing covariables. Analyses of covariance were also conducted, however, in order to take advantage of their greater statistical power.

Table 5-15 presents the results of these analyses, none of which show even a marginally significant difference between the groups. The parity in effectiveness between the one-year and two-year Home Start treatments reported by the original evaluation is thus given further support by the Followup Study. Within the range of outcome measures used, there was no evidence of so-called latent effects emerging during the first years of formal schooling, regardless of which time point in the original evaluation was chosen as the source of covariables.

Table 5-15

Analysis of Variance and Covariance Comparing the One-Year And Two-Year Home Start Groups on the Child Outcome Measures: Kindergarten, First and Second Grades Pooled, Spring 1975 Covariables*

Variable		One-Year	Two-Year	F	df	p
MATH:	ANOVA	20.49 (7.91)	21.27 (8.79)	<1	138	-
	ANCOVA	20.84	20.93	<1	136	-
READING:	ANOVA	23.92 (7.20)	25.17 (8.45)	<1	139	-
	ANCOVA	24.26	24.83	<1	137	-
SDRCI		10.9 (5.06)	11.2 (4.75)	<1	166	-
PSAS		65.1 (18.6)	67.8 (18.5)	1.0	191	-
PIPS		4.26 (1.51)	4.29 (1.67)	<1	179	-

*ANOVA results for math and reading achievement are appropriate tests of treatment effects, since the groups were equivalent on the PSI and age-at-testing covariables. ANCOVA results represent a better test, however, because of increased statistical power. SDRCI results are strictly descriptive due to heterogeneity of regression and group nonequivalence. ANOVA results for the PSAS and the PIPS are the only appropriate tests of treatment effects because no covariables were found for these outcome variables.

CHAPTER VI
DISCUSSION AND IMPLICATIONS

It is unfortunate that a greater sense of clarity and certainty could not have been established regarding the outcome findings of the Followup Study. Yet this was unpreventable. If one were to search for a simple conclusion least subject to caveat and constraint, it would be that circumstances yielded a research design inadequate for the purpose of the evaluation.

This conclusion does not necessarily mean the Followup Study should never have been attempted. The appropriateness of the research questions, their relevance to federal policy, and the potential contribution to the evaluation literature were considerable motivations supporting this research. And it is important to realize that the degeneration of the research design was neither avoidable nor predictable. Though it began in 1974, when the original control families became an experimental group, it did not become a certainty until the end, when heterogeneity of regression was confirmed in the data. It is reasonable to say that each decision regarding the design and procedures of the Followup Study maximized the chances of success. Even the failure of adequately matching the SES of the comparison families to that of the Home Start families did not preordain the inability of the study to draw statistical conclusions. This inability results primarily from the fact that uncertainty surrounds the specification of the covariable model under the null hypothesis. Ordinarily, the covariable model for the comparison group serves this purpose. Given both heterogeneity of regression and nonequivalent covariate means, however, there is reason to doubt that the model for the comparison group is the one which would have been found for the experimental

group had it never entered the Home Start program. Because the covariable model is used to adjust means on the outcome measures, these adjustments cannot be made with confidence. Yet without them, treatment effects cannot be estimated.

There must be no confusion here regarding the implications of these problems. The long-term effectiveness of the Home Start program has been neither proven nor disproven by the Followup Study. In essence, the principal research question remains unanswered because it can not be answered unequivocally and unambiguously; the study has not the ability to rule between competing hypotheses.

The conclusions to be drawn from the Followup Study, therefore, do not concern the Home Start program, but the design of program evaluations. First, evaluations should be designed with the assessment of long-term effects in mind from the outset. Even if long-term effectiveness is not made a research question in the initial evaluation, thoughtful planning can facilitate such an effort should it be undertaken later. Second, under no circumstances should a control group be completely absorbed into the experimental program if the possibility exists that it might be used in a later evaluation. Not only might the equivalence problem have been lessened if there had been a control group to track, but test data from the original evaluation would have constituted a more powerful set of covariables than SES and other background information. Third, the difficulty of forming an adequate comparison group by post hoc matching must not be underestimated, especially when circumstances such as within-class pairing limit the number of candidates from which a match must be drawn. Fourth, it is imperative that homogeneity of regression assumptions be

tested when analysis of covariance is to be the principal analytic tool. Had this not been done in the Followup Study, the analyses would not only have been erroneous, but dangerously misleading. They would have appeared to show the comparison group significantly outperforming the Home Start group even after adjustments for nonequivalence had presumably been made.

These conclusions are hardly novel; they are, in fact, elementary principles of research design. The problems encountered in the Followup Study are an eloquent, if unfortunate, testimony to the attention they should receive in future program evaluations.

APPENDIX A

PSYCHOMETRIC ANALYSIS OF THE HOME START FOLLOWUP CHILD TEST DATA

A total of 383 children were tested in the Home Start Followup Study: 58 kindergartners; 216 first graders; 104 second graders; and 5 third graders who were excluded from all analyses. The battery consisted of the following tests:

- the Mathematics and Reading Recognition subscales of the Peabody Individual Achievement Test (PIAT MATH and READ), a nationally normed standardized test of these skills;
- the Stephens-Delys Reinforcement Contingency Interview (SDRCI), an 18-item measure of the child's awareness and belief that his or her behavior has a reinforcing effect on others (one aspect of locus of control);
- the Purdue Social Attitude Scale for Primary Grade Children (PSAS), a 30-item measure of the child's general social attitude; and
- the Preschool Interpersonal Problem Solving Test (PIPS), a seven-item measure of the ability to generate multiple solutions to a variety of social predicaments.

Testing spanned two days, with the same tester administering all tests to any given child. After each session, the child was rated on the Pupil Observation Checklist (POCL), a nine-item scale with Task Orientation and Sociability subscales. Different testers were used in the six sites, and test data were collected over a period of five months.

Means, standard deviations, and alpha coeffecients (estimating reliability) are presented in Table A-1 for each grade and for the total sample. Table A-2 presents intertest correlations by grade. Results for the POCL are not presented in these summaries because interrater reliability for this measure appears to be low, as discussed later. The following general conclusions may be drawn from the psychometric analyses.

- Reliability was excellent for all tests in which it could be assessed, ranging from .82 to .94.* Moreover there was except for the PIPS, substantial variation in test scores which (in light of the high reliability coefficients) indicates that the test battery had a good ability to detect individual differences between children.

- Despite a floor effect for the Peabody Individual Achievement Test, there was no strong evidence that any of the instruments were inappropriate for the kindergartners tested. First, test reliability was homogeneous across grades; and second, missing, unscorable, or otherwise invalid responses did not occur disproportionally among the kindergartners.

- Except for a moderately strong correlation between the PIAT mathematics and reading scores, the tests were relatively independent of one another. This strongly suggests that the SDRCI, the PSAS, and the PIPS are noncognitive instruments and that each measures a different construct. Further construct validation, however, was not possible since the teacher questionnaire could not be administered and no other criterion measures were available. The construct validity of the PSAS and the PIPS, in particular, remains largely a matter of face validity, although the alpha coefficients indicate that each test measures some unitary construct with a high degree of accuracy.

The remainder of this appendix summarizes the psychometric findings for each instrument in the test battery.

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*Coefficient alpha is inappropriate for the PIPS as scored in this study. Other methods of assessing reliability (such as test-retest correlation) require data which were not available.

Table A-1

Test Means, Standard Deviations and Coefficient Alphas
For Each Grade and For the Total Sample*

GRADE	N	MATH $\bar{X}$	MATH (SD)	READ $\bar{X}$	READ (SD)	SDRCI $\bar{X}$	SDRCI (SD)	PSAS $\bar{X}$	PSAS (SD)	PIPS $\bar{X}$	PIPS (SD)
K	52-58	13.3	(4.0)	15.6	(4.3)	8.8	(5.0)	62.5	(20.7)	4.2	(1.5)
G1	190-216	20.1	(6.3)	24.1	(6.0)	11.3	(4.6)	66.9	(17.9)	4.3	(1.6)
G2	94-104	30.1	(9.6)	32.1	(8.8)	12.4	(4.0)	66.5	(15.9)	4.2	(1.5)
TOTAL	336-378	21.8	(9.0)	25.1	(8.5)	11.2	(4.6)	66.1	(17.9)	4.3	(1.6)

GRADE	MATH ALPHA	READ ALPHA	SDRCI ALPHA	PSAS ALPHA	PIPS ALPHA
K	.83	.91	.88	.89	
G1	.90	.92	.87	.87	NOT APPLICABLE
G2	.93	.94	.82	.85	
TOTAL	.94	.94	.87	.87	

*Key to Variables and minimum-maximum possible scores:
MATH: Peabody Individual Achievement Test, Mathematics (0-84 to accommodate grades K-12)
READ: Peabody Individual Achievement Test, Reading Recognition (0-84 to accommodate grades K-12)
SDRCI: Stephens-Delys Reinforcement Contingency Interview (0-18)
PSAS: Purdue Social Attitude Scale (30-150: 30 items each scaled 1-5)
PIPS: Preschool Interpersonal Problem Solving Test (1-7)
Differences between grade means are significant ($p<.01$) only for MATH, READ, and SDRCI.

TABLE A-2

Intertest Correlations

	MATH	READ	SDEL	PSAS	PIPS	
MATH		.71	.25	.07	.09	
READ			.19	.04	.07	N's = 287-370
SDEL				.01	.04	r ≥ .14 significant
PSAS					.04	at p≤.01
PIPS						
AGE*	.51	.52	.11	.01	-.09	

*AGE is age at time of testing.

GRADE		READ	SDEL	PSAS	PIPS	
	MATH	.46	.03	-.08	-.11	
K	READ		.02	.05	-.13	N's = 50-56
	SDEL			-.04	-.04	r ≥ .33 significant
	PSAS				-.28	at p≤.01
	MATH	.56	.17	.04	.19	
G1	READ		.12	.01	.01	N's = 183-211
	SDEL			.06	.08	r ≥ .20 significant
	PSAS				.11	at p≤.01
	MATH	.52	.19	.15	.04	
G2	READ		.02	.01	.22	N's = 92-102
	SDEL			-.12	-.01	r ≥ .25 significant
	PSAS				.06	at p≤.01

Peabody Individual Achievement Test (PIAT): Math and Reading Recognition Subtests.

Both the Math and the Reading subtests of the PIAT demonstrated excellent reliability, the alpha coefficient being .90 or higher for every subset of the data except the kindergarten Math scores. Coupled with the large standard deviations, this allayed one initial concern about the PIAT: that it might have been designed for too broad a grade span (K through G12) to detect individual differences in the followup sample. Even though each subtest contains only 84 items to span 13 grades, the Math and Reading ranges in the Followup Study were 4-77 and 4-53, respectively. (The Math range is somewhat misleading since only one child scored higher than 51.) The PIAT, therefore, is both sensitive to relatively small individual differences in level of achievement and accurate in measuring those levels.

It should be noted, however, that the PIAT suffered from a "floor" effect. That is, it did not differentiate as well among children scoring at its lower end as among children higher in achievement. This can be seen in Table A-1 as an increasing standard deviation from kindergarten through second grade, and results from an insufficient number of items appropriate for very young children and low-achieving children. This was not a substantial problem for the Followup Study, however, because the comparison group was match-sampled within classrooms, because a gain-score design was not involved, and because the dispersion in kindergarten PIAT scores, even though restricted, was still sufficient given the high reliability of the test.

Finally, note from the grade-specific correlations in Table A-2 that the Math and Reading scores correlated moderately well with each other but not significantly with the other instruments. (The within-grade correlations are particularly relevant because age is thus partially controlled). Two important conclusions of this are, first, that the Math and Reading Subtests do indeed measure different, though related, facets of achievement. Based on the first-grade correlation of .56, it appears that only about 30 percent, at most, of the variance in one subtest is predictable from the other. Second, academic achievement is not measured by the social adjustment measures in the battery. In fact, except for the Math-Reading correlation, the instruments in the battery were fairly independent of one another.

Average testing time for the PIAT was 14 minutes, with over 90 percent of the children completing both subtests in 20 minutes. Together with its psychometric characteristics, this makes the PIAT very attractive for similar applications in large scale research where testing time is at a premium.

Stephens-Delys Reinforcement Contingency Interview (SDRCI)

The SDRCI measures that aspect of locus of control related to the child's awareness that his behavior has a reinforcing effect on others. It consists of a series of questions such as "What makes mothers happy?" and "What makes teachers angry?" The child's answer is scored "internal" if it reflects something he or she does (e.g., "When I bring her a present") or

"external" if it reflects events independent of the child (e.g., "When the such shines"). Skill and judgment are important elements of administering the test because the tester must try to probe until a scorable response is obtained without unduly fatiguing or irritating the child.

The test consists of 18 items derived by crossing three objects (mothers, teachers, other children) with six adjectives: (happy, unhappy, smile, not nice, love you, and angry). Two steps were taken in an attempt to screen out protocols in which the child simply did not comprehend the items or the instructions. First, the tester rated each child on the amount of difficulty he/she had with each of the six adjective stems: (1) no trouble, (2) some trouble, or (3) much trouble. These ratings were summed, and any child who had a difficulty score greater than 12 was excluded from the analyses (26 cases). Second, a protocol was excluded if the child simply did not respond to five or more of the items (16 cases). The score for the SDRCI is the total number of "internal" responses.

The SDRCI demonstrated excellent internal consistency, ranging from .82 to .88. Perhaps more importantly, interscorer reliability was high. Twenty-four test protocols were scored by an AAI analyst before the data were sent to High/Scope for coding. The analyst's scoring agreed with the High/Scope coder's on 90 percent of the 432 items. The analyst's total scores correlated .92 with the coder's. Moreover, the mean of the analyst's SDRCI scores was identical to the coder's mean. In sum, both the interscorer and internal consistency reliability of the SDRCI are excellent.

There is, however, a ceiling effect with SDRCI scores: fully 6 percent of the kindergartners, 14 percent of the first-graders, and 17 percent of the second graders scored 17 or 18 on the 18-item test. Although this is a rather pronounced effect, it was tolerable for the same reasons that the PIAT's floor effect was tolerable.

Finally, the SDRCI grade means in Table A-1 are significantly different from each other. Newman-Keuls range tests revealed, not surprisingly, that kindergartners gave fewer internal responses than first or second graders. The latter two grades did not differ but this was probably because of the test's ceiling effect. It should be pointed out, however, that kindergarteners did not have significantly higher difficulty ratings for the SDRCI adjectives, nor did they account for a larger than expected proportion of the 42 invalid tests. The coefficient alpha was .88 for this grade. The SDRCI, therefore, seems perfectly appropriate for use with kindergarten-aged children.

The SDCRI suffered from appreciably more invalid protocols (42 cases, or 11% of the sample) than the other child tests. Even though the psychometric properties of the valid data were quite good, this data loss was somewhat disturbing because of the potential sampling bias which might have been introduced. This did not appear to happen, however; the invalid cases were proportionally distributed across the Home Start, Head Start and comparison groups. The SDRCI requires thorough training, much skill, and great care in administration if useful data are to be obtained. Judging from the high interscorer reliability, this was achieved in the Followup Study. In fact the missing data rate of 11 percent may in some respects be another

indication of success since it is considerably lower than the rate encountered in Project Developmental Continuity. The SDRCI is simply demanding of both the child and the tester, and this is reflected in the data.

Average SDRCI testing time was 11 minutes, with 90 percent of the children finishing within 15 minutes.

Purdue Social Attitude Scales (PSAS)

The PSAS consists of 30 cartoon-story items which portray the same character in a variety of situations, such as on the way to school, with other children asking to join a game, or at home with parents. At the outset, this figure is identified as the child who is responding to the scale. Responses take the form of checking one of five faces which range in expression from very happy to very sad, with a neutral midpoint. The goal of the PSAS is to tap the child's social attitudes with respect to the situations represented in the items. Cicirelli's (1971) original scale contained four sets of 10 items each, the categories being designed to assess attitudes toward peers, school, home, and community. The community items were deleted in order to achieve manageable test length. A total score and three subscale scores were computed.

As seen from Table A-1, the PSAS demonstrated excellent internal consistency (alpha = .85-.89) and variability (SD's = 15.9-20.7). This was expected, and corresponds to Cicirelli's findings from his validity research. The principal question to be answered by the psychometric analyses was whether

the three PSAS subscores should be used as measures of distinct social attitude constructs. Judging from the results shown on Table A-3, they should not. First, the so-called subscales correlated with each other at about the same level as their internal consistencies, which is to say they intercorrelated about as highly as they theoretically could given their reliability. Second, the subscales behaved almost identically in their relationships to the other instruments, which is to say that none of them correlated significantly. Third, the subscale means (not shown) sometimes differed from each other, but not in a consistent pattern within all three grades. Sometimes Peer and School differed, sometimes School and Home, but no two scales differed in all three grades and not always were the differences in the same direction. It appears that the PSAS is best scored as a single measure of general social attitude. Such a construct, while interpretable, fits less readily into a theoretical framework than the hoped-for subscale constructs would have.

Table A-3

Reliability of and Correlations for Three Potential Subscales of the PSAS*

	Alpha	PSAS School	PSAS Home	MATH	READ	SDEL	PIPS
PSAS Peer	.68	.66	.70	.06	.03	.00	.04
PSAS School	.67	-	.69	.10	.02	-.03	.02
PSAS Home	.70	-	-	.09	.06	.03	.03

*N's = 331-368; $r > .14$ significant at $p < .01$.

Regarding other characteristics of the PSAS: there is no apparent floor or ceiling effect; there is no significant difference among grade means; and correlations with the other instruments are not significant. Average testing time was 12 minutes, with 94 percent of the children finishing in 15 minutes.

Preschool Interpersonal Problem Solving Test (PIPS)

The PIPS presents the child with seven interpersonal situations, such as wanting a toy that another child has, and asks for a solution to each problem. Each time a previous solution is repeated, the child is prompted for a different solution. Each solution is coded in terms of 25 a priori categories (ask, trade, bribe, etc.). Although the nature of the PIPS suggests a clinical approach to scoring, national research studies such as Project Development Continuity have relied on a straightforward count of the number of different solutions suggested by the child, and this was the approach used in the Followup Study. Although one might expect this to result in high correlations with cognitive ability and academic achievement, the manual claims such correlations are low and only marginally significant at best. As shown in Table A-2 and discussed below, the psychometric analysis supports this claim.

One difficulty with the PIPS is that non-responses are expected, especially after the first few items when the child is being probed for new and different solutions. Thus it is difficult, if not impossible, to tell

from an inspection of the tester's protocol whether the child understood the instructions and the items. Likewise, it is hard to tell whether the child merely ran out of solutions or became obstinate. In order to establish at least a minimal screen for possibly invalid tests, the frequency of non-responses to the first, second, third, etc., items was inspected. It was decided to consider a test invalid if there were two or more non-responses among the first four items. Eighteen cases were eliminated from the analysis using this criterion.

Internal consistency estimates of reliability are inappropriate for the PIPS. Although the Followup Study design does not permit alternative methods (such as test-retest correlation), the PIPS manual reports 96 percent interscorer agreement on broad solution categories and test-retest coefficients of .72 for a one-week span and .59 for a 3-5 month span. These coefficients, however, are based on a scoring strategy which allowed a maximum score of over 14 points, and presumably do not suffer attenuation from restricted variance. In the Followup Study, where the maximum score was 7 and the minimum was 1, there may be a problem in this regard. The percentage of children offering one through seven different solutions was as follows:

PIPS Score	% Cases
1	4
2	11
3	18
4	20
5	22
6	17
7	8

With this sort of compressed distribution, the power of the PIPS to detect group differences is not likely to be high. One indication of this may be that the grade means in Table 1 are not significantly different from each other. Although this may reflect reality, it seems counterintuitive. Even though the PIPS is not correlated with cognitive ability, one might nonetheless expect older children to be able to come up with more solutions than younger children. The fact that they don't may be due to the restricted scoring range or to an insensitivity of the test to developmental patterns in this age range. The specific reason is perhaps unimportant in the Followup Study since both explanations are merely two perspectives on the same psychometric problem: the limited ability of the test to reflect individual differences in interpersonal problem solving.

Finally, PIPS correlations with PIAT Math and Reading scores, as mentioned above, were either nonsignificant (and often near zero) or were marginally significant but inconsistent. That is, the PIPS correlated .19 with Math among first graders, but .04 among second graders. The correlation with Reading on the other hand, was .01 with first graders and .22 with second graders. Neither the Math nor the Reading correlation was significant among kindergartners. These results support the manual's claim that the PIPS is unconfounded by cognitive ability or achievement beyond a certain minimum capacity to understand the task.

Average testing time for the PIPS was 15 minutes, and 95% of the children finished within 20 minutes.

Pupil Observation Checklist (POCL)

The POCL is a popular rating scale in national research studies (Home Start, National Day Care Study, Project Develcpmental Continuity), which have repeatedly verified the existence of two quite stable factors usually labelled Task Orientation and Sociability. In the Followup Study, each of these scales consisted of five items rated 1-7, so that the possible range in scores was 5-35. The items were completed by the tester after each child finished that day's session. The session on Day 1 included the PIAT and the SDRCI; the PSAS and the PIPS comprised Day 2. The tester was the same on both days, however, so that Followup Study data do not permit an assessment of interrater reliability.

Analysis of POCL data from the National Day Care Study, however, casts serious doubt on the interrater reliability of this instrument. At one point in that study, the same tester was used in two testing sessions and a different tester was used in a third. The correlation for sociability ratings provided by different testers was .44, which is the best available estimate of the upper limit on POCL interrater reliability. (As in the Followup study, positive response bias was pronounced for the Task Orientation subscale--so much so that interrater reliability was not investigated.) Actual reliability could be even lower in the Followup Study because the wide variety of conditions in which tests were administered might have increased to the error variance. Because of this, it was decided not to use the POCL as either an outcome or a descriptive measure.

APPENDIX B

HOME START FOLLOWUP STUDY
PARENT INTERVIEW
Item Response Distributions

Introduction

This appendix reports response distributions for all items in the parent interview for the three groups of families that participated in the Home Start Followup Study. Missing data, as well as refusals or don't know responses, have been excluded from these frequency distributions. It explains the drop in the number of respondents on selected items in the parent interview. The incidence of missing data was particularly severe on questions relating to preschool experience, child age, birth order, school entry and household size (for the Home Start and Head Start groups). These questions were erroneously skipped by interview staff because data had already been obtained in the Family Background Questionnaire, which was used to select the retrospective comparison group. The incidence of missing data in this background questionnaire was extensive, however. Where possible, data from the two questionnaires were merged and reported in written texts presented in Chapter 2, 3, and 4.

Several of the items in the parent interviews do not sum to 100 percent because multiple responses were elicited from parents on selected questions. These questions are underlined in the attached response distributions.

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
1. What is your relationship to _____?	(N=195)	(N=136)	(N=45)	(N=377)
Mother	94.4	97.8	100.0	96.3
Father	1.5	0.0	0.0	0.8
Older sister	0.5	0.0	0.0	0.3
Aunt	--	0.7	0.0	0.3
Grandmother	3.1	0.7	0.0	1.9
Stepmother	0.5	0.7	0.0	0.5
1A. Are you the person who mostly looks after _____?	(N=193)	(N=136)	(N=44)	(N=373)
Yes	99.5	99.3	97.7	99.2
No	0.5	0.7	2.3	0.8
2. Did _____ participate in a preschool program such as Head start, Home Start, Nursery School or Day Care before (s)he was old enough to go to school?	(N=163)	(N=138)	(N=32)	(N=333)
Yes	100.0	21.0	100.0	67.3
No	--	79.0	--	32.7
Which program was (s)he in?	(N=162)	(N=37)	(N=32)	(N=231)
Head Start	25.3	51.4	100.0	39.8
Home Start	100.0	8.1	6.3	72.3
Nursery School	3.1	8.1	3.1	3.9
Day Care	4.3	10.8	12.5	6.5
Did _____ go to a preschool program other than the ones listed above, or was the child cared for by someone outside the home?	(N=162)	(N=134)	(N=29)	(N=325)
Yes	9.3	14.9	20.7	12.6
No	90.7	85.1	79.3	87.4
Total months of preschool*	(N=163)	(N=135)	(N=32)	
(mean)	16.89	2.30	22.50	
(S.D.)	13.79	6.04	21.34	
What type of program or care was it?	(N=13)	(N=20)	(N=6)	(N=39)
General Preschool (undefined)	23.1	5.0	16.7	12.8
Babysitting outside own home	53.8	85.0	66.7	71.8
Program for physically handicapped	0.0	0.0	0.0	0.0
Program for learning disabilities	15.4	0.0	16.7	7.7
Program for gifted	7.7	5.0	0.0	5.1
Other	0.0	5.0	0.0	2.6

*Data from the family background questionnaire were merged for this item which explains the difference in N's on subquestions of #2.

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE	
3. What grade is _____ in?	(N=191)	(N=136)	(N=44)	(N=371)	
Kindergarten	13.6	12.5	4.5	12.1	
1st	49.7	47.8	81.8	52.8	
2nd	23.6	24.3	11.4	22.4	
3rd	13.1	15.4	2.3	12.7	
Special Education*	1.0	0.0	2.3	0.8	X
Other	1.0	0.0	0.0	0.5	
4. When did (s)he first enter public school?					
5. Did (s)he start in	(N=185)	(N=136)	(N=44)	(N=365)	
Kindergarten	56.8	66.9	63.6	61.4	
First grade	43.2	33.1	36.4	38.6	
Child age	(N=165)	(N=136)	(N=34)		
(mean)	7.11	7.11	7.11		
(S.D.)	0.73	0.83	0.44		
Is _____ your first, second, third child, or which?	(N=164)	(N=136)	(N=34)	(N=334)	
(mean)	3.23	2.83	2.91	3.03	
(S.D.)	2.97	2.52	2.42	2.74	
6. How many brothers and sisters does _____ have?	(N=198)	(N=137)	(N=45)	(N=380)	
(mean)	3.47	3.03	3.00	3.26	
(S.D.)	3.36	3.22	2.67	3.24	
How many are older than _____?	(N=188)	(N=131)	(N=44)	(N=363)	
(mean)	2.68	2.34	2.11	2.48	
(S.D.)	3.65	3.49	2.55	3.47	
7. How many children are living at home?	(N=190)	(N=134)	(N=45)	(N=370)	
(Mean)	3.82	3.24	3.18	3.52	
(S.D.)	2.04	1.48	1.71	1.83	
8. How many adults are living at home?	(N=191)	(N=136)	(N=44)	(N=371)	
	3.27	2.96	2.25	3.03	
	2.38	1.72	1.10	2.06	
8A. What is their relationship to child?	(N=199)	(N=138)	(N=46)	(N=383)	
Father	58.3	75.4	39.1	62.1	
Stepfather	2.0	0.7	8.7	2.3	
Older brother	34.7	26.1	15.2	29.2	
Older sister	25.6	29.0	15.2	25.6	
Aunt	5.0	2.9	2.2	3.9	
Uncle	2.5	3.6	2.2	2.9	
Grandmother	6.5	2.9	4.3	5.0	
Grandfather	3.5	0.0	6.5	2.6	
Other	4.5	5.8	10.9	5.7	

*This doesn't accurately reflect placement in special education since this was not a separate question. Figures reflect only response of those parents who mentioned special education.

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
9. So there are _____ in the home? (Total household)	(N=199)	(N=138)	(N=45)	(N=375)
(Mean)	5.07	5.23	4.98	5.45
(S.D.)	2.19	1.65	1.87	1.97
How many adults were living in the home two years ago?	(N=165)	(N=136)	(N=33)	(N=334)
(Mean)	1.98	1.96	2.00	1.97
(S.D.)	0.80	0.64	1.15	0.78
How many children (under 18) were living with _____ at home two years ago?	(N=151)	(N=125)	(N=28)	(N=304)
(Mean)	3.07	2.53	2.82	2.82
(S.D.)	2.07	1.49	2.11	1.87
10. How long ago did _____ last go to a doctor?	(N=196)	(N=136)	(N=45)	(N=377)
In the last three months	36.2	36.0	37.8	36.3
Four to six months ago	16.8	24.3	24.4	20.4
Seven to nine months ago	5.6	9.6	6.7	7.2
Ten to twelve months ago	11.2	6.6	11.1	9.5
More than a year ago	29.1	22.1	15.6	24.9
Never	1.0	1.5	4.4	1.6
10A. Was this last visit for a routine checkup or for something wrong?	(N=192)	(N=134)	(N=41)	(N=367)
Checkup	38.0	30.6	36.6	35.1
Something wrong	62.0	69.4	63.4	64.9
What was wrong?	(N=120)	(N=95)	(N=28)	(N=243)
Virus	32.5	29.5	21.4	30.0
Infection	19.2	32.6	35.7	26.3
Accidental injury	19.2	11.6	10.7	15.2
Childhood diseases	1.7	0.0	10.7	2.1
Chronic problem	9.2	7.4	7.1	8.2
Other	18.3	18.9	14.3	18.1
10B. How long ago was his/her last checkup?	(N=191)	(N=133)	(N=41)	(N=365)
In the last three months	22.5	18.0	19.5	20.5
Four to six months ago	11.5	15.8	19.5	14.0
Seven to nine months ago	5.8	9.0	12.2	7.7
Ten to twelve months ago	11.5	18.0	24.4	15.3
More than a year ago	47.1	36.8	24.4	40.8
Never	1.6	2.3	--	1.6

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
11. How would you rate _____'s general health?	(N=196)	(N=136)	(N=44)	(N=376)
Excellent	31.1	43.4	36.4	36.2
Good	56.6	51.5	56.8	54.8
Fair	12.2	5.1	6.8	9.0
Poor	0.0	0.0	0.0	0.0
12. Does _____ have any special health problems that you think might affect how (s)he is doing in school?	(N=195)	(N=136)	(N=45)	(N=376)
Yes	24.1	14.7	22.2	20.5
No	75.9	85.3	77.8	79.5
12A. (If yes) what kind of problems?	(N=47)	(N=21)	(N=10)	(N=78)
Chronic problems	17.0	38.1	50.0	26.9
Vision/hearing/speech/dental	63.8	47.6	20.0	53.8
Recurring childhood diseases	2.1	0.0	20.0	3.8
Nervous	8.5	4.8	0.0	6.4
Weight	2.1	0.0	0.0	1.3
Generally doesn't feel well	0.0	4.8	0.0	1.3
Other	6.4	4.8	10.0	6.4
13. How long ago did _____ last go to a dentist?	(N=196)	(N=136)	(N=45)	(N=377)
In the last three months	13.3	27.2	17.8	18.8
Four to six months ago	10.7	11.8	15.6	11.7
Seven to nine months ago	8.7	4.4	13.3	7.7
Ten to twelve months ago	14.8	11.8	15.6	13.8
More than a year ago	45.9	23.5	35.6	36.6
Never	6.6	21.3	2.2	11.4
13A. Was this last visit for a routine checkup or for something wrong?	(N=181)	(N=103)	(N=44)	(N=328)
Checkup	64.1	63.1	59.1	63.1
Something wrong	35.9	36.9	40.9	36.9
What was wrong	(N=66)	(N=39)	(N=19)	(N=124)
Cavity/tooth pulled	84.8	79.5	84.2	83.1
Disease	1.5	2.6	0.0	1.6
Accidental injury	3.0	0.0	0.0	1.6
Other	10.6	17.9	15.8	13.7

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
(13) How long ago was his/her last dental checkup?	(N=180)	(N=103)	(N=44)	(N=327)
In the last three months	10.6	29.1	11.4	16.5
Four to six months ago	12.8	20.4	15.9	15.6
Seven to nine months ago	8.3	3.9	11.4	7.3
Ten to twelve months ago	13.9	13.6	15.9	14.1
More than a year ago	52.8	33.0	40.9	45.0
Never	1.7	--	4.5	1.5
14. How long ago did you last see a doctor?	(N=196)	(N=136)	(N=45)	(N=377)
In the last three months	44.9	48.5	44.4	46.2
Four to six months ago	17.9	16.2	28.9	18.6
Seven to nine months ago	4.6	8.8	2.2	5.8
Ten to twelve months ago	6.6	11.0	4.4	8.0
More than a year ago	26.0	15.4	20.0	21.5
Never	0.0	0.0	0.0	0.0
14A. Was this for a routine checkup, a one time problem or for something that requires regular treatment?	(N=194)	(N=134)	(N=45)	(N=373)
Checkup	40.7	45.5	37.8	42.1
Problem	42.3	44.8	42.2	43.2
Regular treatment	17.0	9.7	80.0	14.7
How long ago did you have your last routine checkup?	(N=193)	(N=132)	(N=44)	(N=369)
In the last three months	32.1	32.6	34.1	32.5
Four to six months ago	12.4	15.2	25.0	14.9
Seven to nine months ago	5.7	9.1	4.5	6.8
Ten to twelve months ago	14.0	18.2	11.4	15.2
More than a year ago	34.2	24.2	20.5	29.0
Never	1.6	0.8	4.5	1.6
15. How would you rate your general health?	(N=195)	(N=136)	(N=44)	(N=375)
Excellent	8.7	29.4	13.6	16.8
Good	55.9	52.9	63.6	55.7
Fair	30.3	16.2	20.5	24.0
Poor	5.1	1.5	2.3	3.5
16. Have you had any health problems that you think affect your general health?	(N=194)	(N=136)	(N=45)	(N=375)
Yes	26.8	20.6	31.1	25.1
No	73.2	79.4	68.9	74.9

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
17. Does _____ dress him/herself?	(N=196)	(N=134)	(N=45)	(N=375)
Yes	98.5	95.5	100.0	97.6
Yes with some help	1.5	3.0	0.0	1.9
No	0.0	1.0	0.0	0.5
18. Does (s)he choose the clothes (s)he will wear?	(N=195)	(N=135)	(N=45)	(N=375)
Yes	88.2	86.7	88.9	87.7
No	11.8	13.3	11.1	12.3
18A. (If yes) how often does (s)he choose his/her clothes?	(N=172)	(N=120)	(N=40)	(N=332)
Everyday	60.5	52.5	67.5	58.4
Often	25.6	27.5	17.5	25.3
Sometimes	14.0	20.0	15.0	16.3
19. Does _____ have responsibilities or chores around the house that you expect of him/her regularly?	(N=192)	(N=134)	(N=45)	(N=375)
Yes	76.5	84.3	86.7	80.5
No	23.5	15.7	13.3	19.5
19A. (If yes) what are they?				
Help with housework	(N=149)	(N=114)	(N=39)	(N=302)
	67.8	62.3	61.5	64.9
Takes care of own belongings	(N=148)	(N=115)	(N=39)	(N=302)
	61.5	75.7	82.1	69.5
Changes clothes after school	(N=145)	(N=113)	(N=39)	(N=297)
	8.3	10.6	15.4	10.1
Care of animals or pets	(N=148)	(N=113)	(N=39)	(N=300)
	35.8	36.3	10.3	32.7
Other	(N=148)	(N=113)	(N=39)	(N=300)
	37.8	42.5	88.2	38.3
19B. Does (s)he mostly do these things alone, or do you or somebody else do them together with him/her?	(N=151)	(N=115)	(N=39)	(N=305)
Mostly alone	52.3	47.0	59.0	51.1
Frequently help	47.0	53.0	41.0	48.5
Do for him/her	0.7	0.0	0.0	0.3

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
20. Does _____ have friends of his/her own age living nearby?	(N=195)	(N=134)	(N=45)	(N=374)
Yes	69.7	67.9	71.1	69.3
No	30.3	32.1	28.9	30.7
20A. (If yes) how often does (s)he play with them after school?	(N=136)	(N=92)	(N=32)	(N=260)
Everyday	63.2	46.7	71.9	58.5
Several times a week	22.1	29.3	21.9	24.6
Once a week	7.4	15.2	3.1	9.6
2-3 times a month	4.4	4.3	0.0	3.8
Once a month	1.5	0.0	0.0	0.8
Less than once a month	1.5	4.3	3.1	2.7
21. Does _____ go places other than school with some member of the family?	(N=195)	(N=135)	(N=45)	(N=375)
Yes	93.3	94.8	91.1	93.6
No	6.7	5.2	8.9	6.4
21A. Who does (s)he usually go with?	(N=195)	(N=133)	(N=44)	(N=372)
Mother or stepmother	40.0	60.9	52.3	48.9
Father or stepfather	10.3	13.5	13.6	11.8
Older children	14.4	5.3	9.1	10.5
Aunt/uncle	10.3	6.0	6.8	8.3
Grandparents	8.7	4.5	6.8	7.0
Babysitter, neighbor, friend	1.0	1.5	0.0	1.1
Other	5.1	0.8	0.0	3.0
21B. Where do they/you usually go?	(N=181)	(N=129)	(N=41)	(N=351)
Shopping	57.5	68.2	51.2	60.7
Library	(N=175)	(N=128)	(N=41)	(N=344)
	2.9	9.4	12.2	6.4
Place of work	(N=175)	(N=129)	(N=41)	(N=345)
	6.3	7.8	7.3	7.0
Park or zoo	(N=177)	(N=129)	(N=41)	(N=347)
	31.1	24.0	46.3	30.3
Other	(N=183)	(N=129)	(N=41)	(N=353)
	80.3	88.4	80.5	83.3

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
22. We are interested in knowing something about the kinds of materials or toys around the house that _____ can play with. Please tell me what kinds of things you have around that _____ can use for active outdoor play.				
Bicycle or tricycle	(N=196) 74.5	(N=138) 79.0	(N=46) 78.3	(N=380) 76.6
Swing, slide, jungle gym, or sandbox	(N=195) 32.3	(N=138) 43.5	(N=46) 30.4	(N=379) 36.1
Riding toy or wagon	(N=193) 23.8	(N=138) 27.5	(N=46) 17.4	(N=377) 24.4
Ball, jump rope	(N=194) 63.9	(N=138) 66.7	(N=46) 71.7	(N=378) 65.9
Animals or pets	(N=195) 27.7	(N=138) 37.0	(N=46) 6.3	(N=379) 29.6
Other	(N=196) 55.6	(N=138) 59.4	(N=46) 56.5	(N=380) 57.1
23. What kinds of things do you have around the house that _____ can play with indoors?				
Crayons, paper, scissors, paste, finger paint, playdough, magic markers	(N=195) 57.9	(N=138) 63.0	(N=46) 52.2	(N=379) 59.1
Put-together toys	(N=193) 41.5	(N=138) 49.3	(N=46) 60.9	(N=377) 46.7
Books	(N=195) 54.4	(N=138) 61.6	(N=46) 52.2	(N=379) 56.7
Dolls, cowboys, soldiers	(N=195) 44.1	(N=138) 56.5	(N=46) 34.8	(N=379) 47.5
Pets	(N=192) 14.6	(N=138) 19.6	(N=46) 10.9	(N=376) 16.0
Dressup clothes	(N=192) 9.4	(N=138) 15.9	(N=46) 4.3	(N=376) 11.2
Wheeled toys	(N=194) 35.6	(N=138) 37.7	(N=46) 47.8	(N=378) 37.8
Small toys	(N=192) 36.5	(N=138) 34.8	(N=46) 28.3	(N=376) 34.8
Other	(N=197) 39.1	(N=138) 47.1	(N=46) 28.3	(N=381) 40.7

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
24. Different parents have different ideas about what children should learn before they go to school. I'd like you to tell me which of the following things was most important for your child.	(N=186)	(N=130)	(N=44)	(N=360)
--to learn things that (s)he would need in school, like numbers, colors, shapes, etc.	36.6	29.2	18.2	31.7
--to be able to get along with other children and to be able to share	36.6	51.5	45.5	43.1
--to be less shy	9.7	5.4	4.5	7.5
--to be more self-controlled or to follow rules better	17.2	13.8	31.8	17.8
24A. Which one was least important?	(N=180)	(N=129)	(N=42)	(N=351)
--to learn things that (s)he would need in school, like numbers, colors, shapes, etc.	15.6	16.3	23.8	16.8
--to be able to get along with other children and to be able to share	16.1	5.4	4.8	10.8
--to be less shy	54.4	65.9	57.1	59.0
--to be more self-controlled or to follow rules better	13.9	12.4	14.3	13.4
25. Were there other things that were important for your child that were not in that list?	(N=188)	(N=135)	(N=44)	(N=367)
Yes	19.1	28.9	27.3	23.7
No	80.9	71.1	72.7	76.3
25A. What were they?	(N=37)	(N=41)	(N=12)	(N=90)
Name and address	24.3	26.8	33.3	26.7
Academics	18.9	9.8	0.0	12.2
Ethnics	13.5	4.9	8.3	8.9
Hygiene	2.7	4.9	0.0	3.3
Independence	13.5	12.2	33.3	15.6
Understanding English	10.8	2.4	0.0	5.6
Social adjustment	10.8	14.6	16.7	13.3
Other	5.4	24.4	8.3	14.4
26. How often does child watch TV?	(N=196)	(N=134)	(N=44)	(N=374)
Everyday	84.3	83.7	86.4	84.2
Several times a week	11.9	8.2	6.8	9.4
Once a week	3.0	2.0	6.8	2.9
2-3 times a month	0.0	0.5	0.0	0.3
Once a month or less	0.0	1.5	0.0	0.8
Never	0.7	4.1	0.0	2.4

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
26A. About how much time does (s)he spend watching TV?	(N=162)	(N=113)	(N=38)	(N=313)
(Mean)	16.09	19.18	16.84	17.30
(S.D.)	10.94	18.02	10.77	13.93
26B. What programs does child watch regularly?	(N=199)	(N=138)	(N=46)	(N=383)
Educational TV	26.6	38.4	37.0	32.1
Children's entertainment	67.3	76.1	69.6	70.8
News programs	0.0	0.7	0.0	0.3
Evening entertainment	52.8	58.0	63.0	55.9
Soap operas	0.5	0.0	0.0	0.3
Game shows	1.5	3.6	6.5	2.9
Sports	1.0	0.7	2.2	1.0
Movies	0.5	0.0	0.0	0.3
Other	2.5	0.0	2.2	1.6
27. How often does _____ look at a book or magazine at home?	(N=195)	(N=134)	(N=44)	(N=373)
Everyday	63.6	77.6	72.7	69.7
Several times a week	20.0	11.2	18.2	16.6
About once a week	7.2	6.0	4.5	6.4
2-3 times a month	2.6	3.0	0.0	2.4
Once a month or less	4.1	0.0	2.3	2.4
Never	2.6	2.2	2.3	2.4
27A. What kinds of books or magazines does _____ like best?	(N=183)	(N=134)	(N=43)	(N=360)
Fairy Tales	26.8	20.9	23.3	24.2
Mystery stories	(N=182)	(N=135)	(N=43)	(N=360)
	1.6	3.7	2.3	2.5
Animal stories	(N=185)	(N=134)	(N=43)	(N=362)
	46.5	45.5	41.9	45.6
Comic books	(N=184)	(N=135)	(N=44)	(N=363)
	23.9	16.3	18.2	20.4
Other books	(N=193)	(N=135)	(N=44)	(N=372)
	63.2	74.8	79.5	69.4
28. Does someone at home ever read with him/her?	(N=196)	(N=136)	(N=45)	(N=377)
Yes	90.3	97.1	97.8	93.6
No	9.7	2.9	2.2	6.4

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
28A. How often does someone read with him/her?	(N=173)	(N=129)	(N=44)	(N=346)
Everyday	32.4	34.1	31.8	32.9
Several times a week	42.8	37.2	40.9	40.5
About once a week	18.5	18.6	20.5	18.8
2-3 times a month	3.5	7.0	6.8	5.2
Once a month or less	2.9	3.1	0.0	2.6
28B. Who usually reads with child?				
Mother/principal caregiver	(N=177)	(N=132)	(N=44)	(N=353)
	68.9	78.0	65.9	72.0
Father	(N=174)	(N=133)	(N=44)	(N=351)
	8.0	18.8	6.8	12.0
Other adult	(N=172)	(N=132)	(N=44)	(N 348)
	5.8	3.8	6.8	5.2
Older children	(N=173)	(N=132)	(N=44)	(N=349)
	41.6	31.1	29.5	36.1
Someone else	(N=171)	(N=132)	(N=44)	(N=347)
	1.8	4.5	4.5	3.2
28C. Does (s)he usually ask someone to read with him/her or does someone usually offer?	(N=173)	(N=130)	(N=44)	(N=347)
Child asks	57.8	59.2	59.1	58.5
Someone offers	23.7	20.0	20.5	21.9
Both	18.5	20.8	20.5	19.6
29. Some children like to talk about their day or what happened at school and some don't. Does _____ like to do this?	(N=195)	(N=133)	(N=45)	(N=373)
Yes	85.1	86.5	88.9	86.1
No	14.9	13.5	11.1	13.9
29A. Who does (s)he usually talk with?	(N=166)	(N=118)	(N=42)	(N=326)
Mother or primary caregiver	91.0	96.6	95.2	93.6
Father	(N=162)	(N=117)	(N=41)	(N=320)
	21.0	26.5	14.6	22.2
Brother or sister	(N=162)	(N=116)	(N=40)	(N=318)
	22.2	23.3	17.5	22.0
Other adult	(N=160)	(N=115)	(N=41)	(N=316)
	7.5	2.5	7.3	6.0
29B. Do you know what kinds of things (s)he likes to talk about?	(N=194)	(N=134)	(N=44)	(N=372)
Yes	82.5	85.1	90.9	84.4
No	17.5	14.9	9.1	15.6

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
29C. (If yes) what are they?	(N=158)	(N=111)	(N=34)	(N=303)
Things (s)he does/learns at school	55.1	54.1	55.9	54.8
Other children	18.4	26.1	17.6	21.1
Teacher	5.1	0.9	5.9	3.6
Sports/playing	10.1	7.2	11.8	9.2
Problems	0.6	0.0	0.0	0.3
Things they need to have for school	0.6	0.0	0.0	0.3
Other	10.1	11.7	8.8	10.6
29D. How do you know when (s)he is angry or happy about something that happened at school?	(N=158)	(N=112)	(N=41)	(N=311)
(S)he lets me know	25.9	31.3	26.8	28.0
Attitude	42.4	41.1	51.2	43.1
Facial expression	23.4	20.5	12.2	20.9
Gets destructive	4.4	0.9	2.4	2.9
No one gets along with the child	0.6	1.8	0.0	1.0
Is never angry	2.5	0.9	2.4	1.9
Other	0.6	3.6	4.9	2.3
30. Does (s)he like to eat things you feel are not good for him/her?	(N=194)	(N=134)	(N=45)	(N=373)
Yes	79.9	85.1	80.0	81.8
No	20.1	14.9	20.0	18.2
(If yes) how do you handle this most of the time?	(N=150)	(N=112)	(N=35)	(N=297)
Don't buy it	28.7	27.7	25.7	27.9
Tell child (s)he can't have it	12.7	11.6	25.7	13.8
Limit snacks	33.3	42.0	25.7	35.7
Suggests/gives substitutes	4.7	8.0	0.0	5.4
Tell him/her it is not good for him/her	10.0	2.7	8.6	7.1
Hide it	1.3	0.9	5.7	1.7
Let him have it	9.3	7.1	8.6	8.4

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
31. Is there anyone who takes care of _____ now when you can't?	(N=195)	(N=133)	(N=44)	(N=372)
Yes	85.6	91.7	93.2	88.7
No	14.4	8.3	6.8	11.3
31A. Who is it that takes care of the child?	(N=161)	(N=123)	(N=41)	(N=325)
Father	18.0	24.4	2.4	18.5
Mother	(N=160)	(N=122)	(N=41)	(N=323)
	2.5	4.1	2.4	3.1
Grandparent	(N=164)	(N=123)	(N=42)	(N=329)
	39.0	35.0	38.1	37.4
Older siblings	(N=162)	(N=123)	(N=41)	(N=326)
	28.4	22.0	24.4	25.5
Relative	(N=161)	(N=122)	(N=41)	(N=324)
	22.4	21.3	17.1	21.3
Friend or relative	(N=162)	(N=122)	(N=41)	(N=325)
	13.6	16.4	22.0	15.7
Other	(N=162)	(N=122)	(N=41)	(N=325)
	4.3	12.3	7.3	7.7
32. Has there ever been an occasion when someone took care of _____ regularly for half a day or more?	(N=194)	(N=132)	(N=45)	(N=371)
	58.2	66.7	64.4	62.0
Was this to enable you to work or go to school or for some other reason?	(N=113)	(N=88)	(N=29)	(N=230)
Work	54.0	60.2	62.1	57.4
School or job training	(N=111)	(N=88)	(N=29)	(N=228)
	6.3	6.8	3.4	6.1
Illness	(N=111)	(N=88)	(N=29)	(N=228)
	22.5	22.7	20.7	22.4
Meeting or recreation	(N=111)	(N=88)	(N=29)	(N=228)
	0.9	2.3	0.0	1.3
Other	(N=111)	(N=88)	(N=29)	(N=228)
	18.9	9.1	17.2	15.9

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
33. Has _____ lived with you all of his/her life or have there been times when (s)he has lived with someone else?	(N=196)	(N=134)	(N=45)	(N=375)
Lived with mother all his/her life	96.4	94.8	100.0	96.3
Lived with someone else	3.6	5.2	0.0	3.7
33A. Whom has (s)he lived with besides you?	(N=7)	(N=11)	(N=0)	(N=18)
Mother	14.3	45.5	0.0	33.3
Aunt/uncle	28.6	27.3	0.0	27.8
Grandparents	42.9	9.1	0.0	22.2
Other	14.3	18.2	0.0	16.7
34. Does _____ have one regular teacher or does (s)he have several different teachers?	(N=192)	(N=136)	(N=45)	(N=373)
One regular teacher	64.6	70.6	64.4	66.8
Different teachers	35.4	29.4	35.6	33.2
35. What is teacher's name?	(N=193)	(N=136)	(N=45)	(N=374)
Knows name	85.0	91.9	91.1	88.2
Doesn't know name	15.0	8.1	8.9	11.8
36. Most schools have some good teachers and some not so good. How do you feel about _____'s teacher (the one who teaches him/her most of the time)? Would you say...	(N=192)	(N=133)	(N=44)	(N=369)
she's an excellent teacher?	31.3	52.6	47.7	40.9
she's a good teacher?	47.9	35.3	34.1	41.7
she's all right? or	14.1	9.0	13.6	12.2
she's not very good?	6.8	3.0	4.5	5.1
Have you done anything about that?	(N=13)	(N=6)	(N=2)	(N=21)
Yes	61.5	100.0	100.0	76.2
No	38.5	0.0	0.0	23.8
What do you think you can do about that?	(N=167)	(N=123)	(N=39)	(N=329)
Talk with teacher	3.0	0.0	2.6	1.8
Talk with other school personnel	1.2	0.0	0.0	0.6
Have child moved	0.6	0.0	0.0	0.3
Nothing	0.6	0.0	0.0	0.3
Other	1.8	0.8	0.0	1.2

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
37. What kind of school work does child bring home?				
Homework	(N=193)	(N=138)	(N=46)	(N=377)
	51.3	48.6	52.2	50.4
School papers	(N=198)	(N=138)	(N=46)	(N=382)
	59.1	64.5	54.3	60.5
Other homework	(N=192)	(N=138)	(N=46)	(N=376)
	25.0	30.4	23.9	26.9
Nothing	(N=193)	(N=138)	(N=46)	(N=377)
	4.1	2.2	0.0	2.9
38. Who does child go to for help with schoolwork?				
Mother	(N=199)	(N=138)	(N=45)	(N=382)
	78.9	85.5	80.0	81.4
Other family member	(N=197)	(N=138)	(N=45)	(N=380)
	22.3	23.2	28.9	23.4
No help provided	(N=194)	(N=138)	(N=45)	(N=377)
	6.2	2.9	0.0	4.2
(Help is provided with homework)	(N=193)	(N=135)	(N=45)	(N=373)
Yes	64.2	65.2	68.9	65.1
No	35.8	34.8	31.1	34.9
39. Some parents help their child with schoolwork, the child's attitude toward school, or to get along better with teachers and other children in the class. Are there any particular things you or someone else does with _____ to help him/her with school?	(N=191)	(N=134)	(N=45)	(N=370)
Yes	63.9	64.9	68.9	64.9
No	36.1	35.1	31.1	35.1
39A. (If yes) how do you or someone else help him/her?	(N=125)	(N=88)	(N=31)	(N=244)
Family works on academics	58.4	54.5	74.2	59.0
Have other help with academics (teacher, tutor)	0.8	1.1	0.0	0.8
Talk about social relationships	20.0	27.3	16.1	22.1
Encourage child	12.8	8.0	3.2	9.8
Make child do schoolwork	3.2	4.5	3.2	3.7
Provide materials	0.0	0.0	0.0	0.0
Discipline, punishment or threat	1.6	0.0	0.0	0.8
Other	3.2	4.5	3.2	3.7

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
39B. Is there anything else you (or someone else) does to help?	(N=50)	(N=41)	(N=13)	(N=104)
Family works on academics	34.0	31.7	38.5	33.7
Have other help with academics	8.0	17.1	15.4	12.5
Talk about social relationships	16.0	17.1	7.7	15.4
Encourage child	20.0	7.3	23.1	15.4
Make child do schoolwork	4.0	0.0	0.0	1.9
Provide materials	2.0	4.9	0.0	2.9
Discipline, punishment or threat	0.0	2.4	0.0	1.0
Other	16.0	19.5	15.4	17.3
40. Thinking back to just before _____ went to school, that is, before (s)he started kindergarten or first grade. How much did (s)he want to go? Would you say...	(N=195)	(N=135)	(N=45)	(N=375)
(s)he was very eager to go?	81.0	86.7	82.2	83.2
(s)he liked to go sometimes and and not others?	11.8	5.2	8.9	9.1
(s)he didn't care one way or the other? or	1.0	5.2	2.2	2.7
(s)he didn't want to go?	6.2	3.0	6.7	5.1
41. And nowadays, how eager is _____ to go to school each day? Would you say	(N=194)	(N=135)	(N=45)	(N=374)
(s)he is very eager to go?	70.1	73.3	62.2	70.3
(s)he likes to go sometimes and not others?	20.1	23.7	22.2	21.7
(s)he doesn't care one way or the other? or	3.1	0.7	2.2	2.1
(s)he didn't want to go?	6.7	2.2	13.3	5.9
42. How well is (s)he doing in his/her schoolwork? Is (s)he doing	(N=192)	(N=135)	(N=44)	(N=371)
very good work?	39.6	54.8	31.8	44.2
good work? or	40.6	31.1	47.7	38.0
fair work? or	16.7	13.3	15.9	15.4
poor work?	3.1	0.7	4.5	2.4
43. I know it is very hard to tell how your child will do in school when (s)he is older, but which would be your best guess. Would you say _____ will do...	(N=192)	(N=134)	(N=45)	(N=371)
very well?	41.7	49.3	40.0	44.2
fairly well?	55.2	48.5	57.8	53.1
not too well? or	3.1	2.2	0.0	2.4
not well at all?	0.0	0.0	2.2	0.3

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
44. How far would you like her/him to go in school?	(N=195)	(N=135)	(N=43)	(N=373)
Finish grade school	0.5	0.0	0.0	0.3
Finish some high school	1.5	0.7	0.0	1.1
Finish high school	56.9	32.6	41.9	46.4
Take vocational training	1.0	2.2	0.0	1.3
Go to college	17.4	24.4	27.9	21.2
Finish college	20.5	37.8	30.2	27.9
Go to graduate school	2.1	2.2	0.0	1.9
45. How far do you think _____ will go in school? Would you say (s)he will	(N=177)	(N=129)	(N=43)	(N=349)
Finish grade school	2.8	1.6	2.3	2.3
Finish some high school	8.5	4.7	4.7	6.6
Finish high school	68.4	43.4	65.1	58.7
Take vocational training	4.5	4.7	4.7	4.6
Go to college	8.5	16.3	9.3	11.5
Finish college	5.6	26.4	14.0	14.3
Go to graduate school	1.7	3.1	0.0	2.0
45A. Why do you think that?	(N=168)	(N=124)	(N=39)	(N=331)
Positive self-motivation, determination	21.4	30.6	23.1	25.1
Positive adult, peer or sibling influence	35.1	40.3	43.6	38.1
Has ability, good grades	6.0	2.4	5.1	4.5
Likes school	14.3	10.5	5.1	11.8
Negative self-motivation, determination	7.1	2.4	0.0	4.5
Negative adult, peer or sibling influence	0.0	1.6	0.0	0.6
Slow learner, poor grades	0.0	0.8	0.0	0.3
Doesn't like school	0.0	0.8	2.6	0.6
Drop out to help mother or family	0.0	0.8	0.0	0.3
Enlist in military	0.0	0.0	2.6	0.3
Get married and quit school	1.2	2.4	2.6	1.8
Mother just hopes so	5.4	4.0	2.6	4.5
Child needs good education	1.2	0.8	0.0	0.9
Can't afford it	1.2	0.8	0.0	0.9
Other	7.1	1.6	12.8	5.7
46. In general, how satisfied are you with _____'s progress in school? Would you say	(N=192)	(N=127)	(N=44)	(N=363)
very satisfied?	60.4	66.9	61.4	62.8
fairly satisfied? or	33.9	28.3	27.3	31.1
not satisfied?	5.7	4.7	11.4	6.1

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
46A. Why?	(N=168)	(N=121)	(N=38)	(N=327)
Repeated a grade	0.6	0.8	0.0	0.6
Advanced a grade	1.2	0.0	0.0	0.6
Schools shortcoming	4.8	1.7	2.6	3.4
(S)he's learning	25.6	33.9	26.3	28.7
Likes school/good grades	44.6	40.5	44.7	43.1
Slow learner/poor grades	4.2	2.5	2.6	3.4
Not applying him/herself	13.1	16.5	18.4	15.0
Doesn't like school	1.2	0.0	0.0	0.6
Other	4.8	4.1	5.3	4.6
47. Since the beginning of this school year, have you been in contact with his/her teacher?	(N=193)	(N=136)	(N=45)	(N=374)
Yes	81.9	93.4	91.1	87.2
No	18.1	6.6	8.9	12.8
47A. (If yes) was there one particular reason or incident for which you were in contact with the teacher?	(N=159)	(N=127)	(N=41)	(N=327)
Yes	52.8	40.2	63.4	49.2
No	47.2	59.8	36.6	50.8
What was the reason?	(N=83)	(N=51)	(N=25)	(N=159)
Regular conference	20.5	15.7	24.0	19.5
Social problems	12.0	2.0	20.0	10.1
School problems	37.3	29.4	24.0	32.7
Adjustment problems	8.4	11.8	8.0	9.4
Health problem, illness or injury	8.4	15.7	8.0	10.7
No specific reason	3.6	5.9	0.0	3.8
Other	9.6	19.6	16.0	13.8
Other than that particular time, have you been in contact with the teacher other times since the beginning of the school year?	(N=84)	(N=51)	(N=24)	(N=159)
Yes	61.9	72.5	75.0	67.3
No	38.1	27.5	25.0	32.7
47B. How many times approximately have you been in contact with the teacher?	(N=123)	(N=109)	(N=35)	(N=267)
(Mean)	5.15	7.50	6.34	6.27
(S.D.)	5.74	8.62	6.21	7.17

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
47C. What kinds of things have you talked about with the teacher? About				
the child's behavior?	(N=119)	(N=106)	(N=34)	(N=259)
	69.7	75.5	82.4	73.7
what the child was learning or how (s)he was doing?	(N=127)	(N=115)	(N=35)	(N=277)
	95.3	93.9	100.0	95.3
books and toys for the child?	(N=113)	(N=106)	(N=33)	(N=252)
	36.3	50.9	42.4	43.3
the teacher's way of teaching the child?	(N=112)	(N=101)	(N=34)	(N=247)
	34.8	33.7	32.4	34.0
other?	(N=44)	(N=43)	(N=13)	(N=100)
	47.7	41.9	38.5	44.0
47D. Does the teacher deal with the children the same way?	(N=109)	(N=105)	(N=36)	(N=250)
Yes	57.8	55.2	50.0	55.6
No	42.2	44.8	50.0	44.4
What does she do differently?	(N=42)	(N=44)	(N=16)	(N=102)
Teacher has special training or education	4.8	2.3	0.0	2.9
Not enough time on academics	4.8	2.3	6.3	3.9
Just a difference in philosophy or point of view	4.8	2.3	6.3	3.9
Positive traits of teacher (more strict, more flexible, other)	21.4	43.2	18.9	30.4
Negative traits of teacher (more strict, more flexible, other)	26.2	31.8	43.9	31.3
Teacher more strict (neither positive or negative)	14.3	4.5	12.5	9.8
Teacher more permissive (neither positive or negative)	9.5	2.3	6.3	5.9
Other (neither positive or negative)	14.3	11.4	6.3	11.8
48. Have you talked with anyone at the school other than the teacher during the school year?	(N=193)	(N=136)	(N=44)	(N=373)
Yes	48.2	53.7	43.2	49.6
No	51.8	46.3	56.8	50.4
48A. Who?	(N=94)	(N=71)	(N=20)	(N=185)
Superintendent	4.3	2.8	0.0	3.2
Principal	70.3	59.2	70.0	65.9
Teacher	9.6	21.1	20.0	15.1
Other	16.0	16.9	10.0	15.7

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
49. Since the beginning of the school, have you been to _____'s classroom while the class was going on?	(N=187)	(N=134)	(N=44)	(N=365)
Yes	41.7	56.7	59.1	49.3
No	58.3	43.3	40.9	50.7
50. (If yes) how does the school feel about you visiting the classroom?	(N=78)	(N=79)	(N=26)	(N=183)
They welcome it	60.3	78.5	65.4	68.9
Feel OK about it	29.5	15.2	26.9	23.0
Don't like it	5.1	2.5	3.8	3.8
Other	5.1	3.8	3.8	4.4
51. In the last couple of years, have you ever felt that things were going badly for _____ at school, or that something that happened at school was wrong?	(N=187)	(N=133)	(N=45)	(N=365)
Yes	26.2	27.1	24.4	26.3
No	73.8	72.9	75.6	73.7
51A. (If yes) did you go to the school and try to get them to change what was wrong (or why things were going badly?)	(N=48)	(N=34)	(N=12)	(N=94)
Yes	72.9	67.6	91.7	73.4
No	27.1	32.4	8.3	26.6
51B. Who did you go to?	(N=33)	(N=26)	(N=11)	(N=70)
Board member	6.1	3.8	0.0	4.3
Principal	36.4	19.2	18.2	27.1
Teacher	51.5	73.1	54.5	60.0
Bus driver	0.0	3.8	9.1	2.9
Other	6.1	0.0	18.2	5.7
51C. Do you think you were successful?	(N=35)	(N=26)	(N=11)	(N=72)
Yes	80.0	76.9	63.6	76.4
No	20.0	23.1	36.4	23.6
51D. Why?	(N=35)	(N=25)	(N=11)	(N=71)
Problem was resolved	25.7	36.0	27.3	29.6
Situation or problem has improved	22.9	8.0	27.3	18.3
Removed	0.0	4.0	0.0	1.4
Child transferred to other class/ school to mother's satisfaction	5.7	4.0	0.0	4.2
Problem still exists	11.4	8.0	9.1	9.9
School unresponsiveness	5.7	12.0	27.3	11.3
School responsiveness	25.7	12.0	9.1	18.3
Other	2.9	16.0	0.0	7.0

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
52. Do you now work either as a volunteer or for pay for any school or program involving children?	(N=193)	(N=136)	(N=43)	(N=372)
Yes	11.9	26.5	16.3	17.7
No	88.1	73.5	83.7	82.3
52A. (If yes) what was it?	(N=21)	(N=36)	(N=7)	(N=64)
In _____'s school?	47.6	36.1	0.0	35.9
Another school?	(N=20)	(N=36)	(N=7)	(N=63)
	5.0	13.9	14.3	11.1
Child care or development program?	(N=21)	(N=36)	(N=7)	(N=64)
	19.0	2.8	57.1	14.1
Sunday school?	(N=21)	(N=36)	(N=7)	(N=64)
	9.5	22.2	14.3	17.2
Scouts or a church organization?	(N=20)	(N=36)	(N=7)	(N=63)
	10.0	25.0	0.0	17.5
Other	(N=20)	(N=36)	(N=7)	(N=63)
	35.0	38.9	14.3	34.9
52B. Is _____ in this program?	(N=18)	(N=28)	(N=7)	(N=53)
Yes	55.6	67.9	42.9	60.4
No	38.9	32.1	42.9	35.8
Not any longer	5.6	0.0	14.3	3.8
52C. How often do you work?	(N=20)	(N=36)	(N=7)	(N=63)
Every day	40.0	19.4	42.9	28.6
Several times a week	5.0	11.1	0.0	7.9
About once a week	15.0	36.1	14.3	27.0
2-3 times a month	10.0	11.1	42.9	14.3
Once a month or less	30.0	22.2	0.0	22.2
53. Mother's education	(N=194)	(N=136)	(N=45)	(N=375)
(Mean)	10.01	11.68	11.18	10.75
(S.D.)	2.09	1.77	2.41	2.17
Less than 8th grade	10.8	0.7	4.4	6.4
Grade school (8th grade)	17.0	3.7	2.2	10.4
Some high school	38.1	25.8	37.8	33.6
High school graduate	29.4	55.1	44.4	40.5
Some college	4.6	9.5	4.4	6.4
College graduate	0.0	2.2	2.2	1.1
Graduate school	0.0	2.9	4.4	1.6
54. Have you had any other kind of training or school?	(N=154)	(N=135)	(N=17)	(N=306)
Yes	14.9	11.9	23.5	14.1
No	85.1	88.1	76.5	85.9

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
54A. What kind was that?				
College	(N=52)	(N=49)	(N=17)	(N=118)
	19.2	2.0	11.8	11.0
Business school	(N=54)	(N=49)	(N=17)	(N=120)
	20.4	22.4	5.9	19.2
Technical school	(N=52)	(N=49)	(N=17)	(N=118)
	15.4	16.3	29.4	17.8
Job training	(N=52)	(N=48)	(N=17)	(N=117)
	15.4	27.1	29.4	22.2
Other training	(N=54)	(N=48)	(N=17)	(N=119)
	42.6	39.6	35.3	40.3
How many years?	(N=43)	(N=36)	(N=13)	(N=92)
(Mean)	2.07	5.13	1.77	3.27
(S.D.)	3.36	14.53	1.24	9.39
55. Aside from what you have mentioned, have you had any other kind of training within the last two years?	(N=174)	(N=119)	(N=39)	(N=332)
Yes	11.5	16.0	10.3	13.0
No	88.5	84.0	89.7	87.0
55A. What kind?	(N=15)	(N=17)	(N=4)	(N=36)
College	6.7	0.0	0.0	2.8
Business school	13.3	29.4	75.0	27.8
Technical school	46.7	17.6	0.0	27.8
Job training	13.3	5.9	0.0	8.3
Other training	20.0	47.1	25.0	33.3
56. Are you going to school or taking courses now?	(N=192)	(N=136)	(N=43)	(N=371)
Yes	5.2	5.1	7.0	5.4
No	94.8	94.9	93.0	94.6
56A. (If yes) what kind of courses?	(N=10)	(N=5)	(N=3)	(N=18)
Adult education	20.0	0.0	33.3	16.7
College courses	50.0	0.0	33.3	33.3
Other	30.0	100.0	67.7	55.6
57. Do you have a paying job now?	(N=193)	(N=136)	(N=44)	(N=373)
Yes	31.1	41.2	45.5	36.5
No	68.9	58.8	54.5	63.5
(If yes) what is your present job?	(N=55)	(N=53)	(N=21)	(N=129)
Child care worker	5.5	1.9	9.5	4.7
Teacher	0.0	7.5	4.8	3.9
Professional technical and kindred workers	3.6	7.5	9.5	6.2
Managers and administrators-non-farm	1.8	3.8	4.8	3.1
Sales workers	1.8	7.5	0.0	3.9
Clerical and kindred workers	10.9	9.4	14.3	10.9

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
Craftsman and kindred workers	0.0	1.9	4.8	1.6
Operatives, except transport	12.7	17.0	4.8	13.2
Transport equipment operatives	1.8	0.0	0.0	0.8
Laborers, non-farm	20.0	17.0	9.5	17.1
Farmers and farm managers	1.8	1.9	0.0	1.6
Farm laborers and farm foremen	1.8	1.9	0.0	1.6
Workers, except private household	25.5	18.9	28.6	23.3
Private household	10.9	3.8	9.5	7.8
Other	1.8	0.0	0.0	0.8
How long have you worked there	(N=58)	(N=51)	(N=20)	(N=129)
(Mean)	3.13	3.16	3.28	3.16
(S.D.)	7.94	3.74	2.51	5.87
Is it	(N=61)	(N=54)	(N=20)	(N=135)
Full-time	70.5	64.8	90.0	71.1
Regular part-time	18.0	27.8	10.0	20.7
Occasional part-time	11.5	7.4	0.0	8.1
How many weeks a year do you work?	(N=57)	(N=51)	(N=21)	(N=129)
(Mean)	45.23	44.31	46.29	45.04
(S.D.)	12.42	13.17	11.62	12.52
How many hours do you work in an average week?	(N=59)	(N=53)	(N=21)	(N=133)
(Mean)	33.81	32.25	32.52	32.99
(S.D.)	13.81	13.82	11.73	13.43
58. Does anyone (else) in your household currently have a paying job and help to support the family?	(N=193)	(N=136)	(N=44)	(N=373)
Yes	61.7	82.4	45.5	67.3
No	38.3	17.6	54.5	32.7
58A. Who?	(N=119)	(N=113)	(N=21)	(N=253)
Mother	0.0	2.7	4.8	1.6
Father	84.1	99.4	71.4	87.7
Older brother	1.7	2.7	0.0	2.0
Older sister	2.5	0.9	0.0	1.6
Aunt	0.8	0.0	0.0	0.4
Uncle	0.0	0.9	0.0	[illegible]
Grandmother	1.7	0.0	0.0	0.8
Other	0.0	1.8	4.8	1.2
Stepfather	4.2	1.8	19.0	4.3
Who contributes the most?	(N=7)	(N=11)	(N=2)	(N=20)
Mother	14.3	27.3	0.0	20.0
Father	71.4	72.7	100.0	75.0
Grandfather	[illegible].3	0.0	0.0	5.0

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
58B. Is his/her job	(N=120)	(N=111)	(N=21)	(N=252)
full time	83.3	92.8	100.0	88.9
regular part-time	13.3	6.3	0.0	9.1
occasional part-time	3.3	0.9	0.0	2.0
58C. How many weeks a year does (s)he work?	(N=113)	(N=106)	(N=20)	(N=239)
(Mean)	46.64	48.00	50.60	47.57
(S.D.)	10.28	7.35	1.27	8.66
58D. How many hours does (s)he work in an average week?	(N)111)	(N=107)	(N=19)	(N=237)
(Mean)	41.26	42.39	43.63	41.96
(S.D.)	12.57	9.63	11.33	11.21
58E. What kind of work does (s)he do?	(N=112)	(N=107)	(N=21)	(N=240)
Child care worker	1.8	0.0	0.0	0.8
Teacher	0.0	1.9	0.0	0.8
Professional technical and kindred workers	1.8	13.1	9.5	7.5
Managers and administrators-non-farm	3.6	5.6	4.8	4.6
Sales workers	2.7	5.6	0.0	3.8
Clerical and kindred workers	1.8	0.0	0.0	0.8
Craftsmen and kindred workers	12.5	25.2	14.3	18.3
Operatives, except transport	21.4	15.9	19.0	18.8
Transport equipment operatives	6.3	6.5	9.5	6.7
Laborers, non-farm	29.5	21.5	33.3	26.3
Farmers and farm managers	3.6	1.9	0.0	2.5
Farm laborers and farm foremen	2.7	0.0	0.0	1.3
Service workers, except private household	11.6	2.8	9.5	7.5
Other	0.9	0.0	0.0	0.4
58F. What is the highest grade (s)he completed in school?	(N=115)	(N=109)	(N=20)	(N=244)
Less than 8th grade	23.5	6.4	5.0	14.2
Grade school	11.3	4.6	0.0	7.4
Some high school	37.4	24.8	20.0	30.3
High school graduate	20.0	36.7	50.0	29.9
Some college	6.1	14.7	25.0	11.5
College graduate	1.7	6.4	0.0	3.7
Graduate school	0.0	6.4	0.0	2.9
58G. Has (s)he had any additional training during the last two years?	(N=119)	(N=111)	(N=21)	(N=251)
Yes	13.4	23.4	19.0	18.3
No	86.6	76.6	81.0	81.7

		HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
59.	How long have you lived at this address?	(N=199)	(N=138)	(N=46)	(N=383)
	(Mean)	3.84	3.88	4.20	3.90
	(S.D.)	2.45	2.64	2.46	2.52
	How often have you moved in the last five years?	(N=165)	(N=114)	(N=42)	(N=321)
	(Mean)	1.27	1.45	1.24	1.33
	(S.D.)	1.30	1.79	1.59	1.53
60.	Do you own or rent this house/apartment?	(N=196)	(N=135)	(N=45)	(N=376)
	Own	45.9	60.0	46.7	51.1
	Rent	46.9	34.1	42.2	41.8
	Neither	7.1	5.9	11.1	7.2
61.	Do you own or have the use of a car?	(N=196)	(N=135)	(N=45)	(N=376)
	Yes	76.0	90.4	82.2	81.9
	No	24.0	9.6	17.8	18.1
62.	Do you have a telephone?	(N=195)	(N=136)	(N=45)	(N=376)
	Yes	68.7	83.8	91.1	76.9
	No	31.3	16.2	8.9	23.1
63.	How far away is your nearest relative?	(N=190)	(N=134)	(N=41)	(N=365)
	(Mean)	7.57	49.02	22.98	24.52
	(S.D.)	27.83	130.05	64.78	86.11
63A.	Do you have other relatives living nearby?	(N=194)	(N=134)	(N=45)	(N=373)
	Yes	72.2	69.4	51.1	68.6
	No	27.8	30.6	48.9	31.4
63B.	How often do you see relatives?	(N=189)	(N=134)	(N=45)	(N=368)
	Every day	49.2	35.8	42.9	43.5
	Once a week or more	33.3	34.3	33.4	33.7
	2-3 times a month	5.8	7.5	6.0	6.5
	Once a month	5.3	8.2	6.8	6.5
	Less than once a month	6.3	14.2	10.9	9.8

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
(Home Start/Head Start Only)				
64. Do you see any parents now that you used to know in the Home/Head Start program?	(N=188)	N/A	(N=44)	(N=232)
Yes	58.0	N/A	65.9	59.5
No	42.0	N/A	34.1	40.5
64A. (If yes) on what occasions do you see them?	(N=108)	N/A	(N=29)	(N=137)
Church or school activities	13.9	N/A	27.6	16.8
Social occasions	8.3	N/A	3.4	7.3
Club or organizational meetings	2.8	N/A	10.3	4.4
Informal visits	38.9	N/A	31.0	37.2
	(N=109)	N/A	(N=29)	(N=138)
In town or shopping	51.4	N/A	55.2	52.2
Other	22.0	N/A	24.1	22.5
65. Do you ever talk to any parents you knew in Home/Head Start?	(N=186)	N/A	(N=44)	(N=230)
Yes	53.2	N/A	70.5	56.5
No	46.8	N/A	29.5	43.5

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
66. How about close friends? Do any of them live nearby?	(N=192)	(N=136)	(N=45)	(N=373)
Yes	62.5	74.3	57.8	66.2
No	37.5	25.7	42.2	33.8
67. Are there other people or groups of people with whom you spend time regularly?	(N=192)	(N=136)	(N=44)	(N=372)
Yes	46.9	65.4	47.7	53.8
No	53.1	34.6	52.3	46.2
What do you do on these occasions?	(N=88)	(N=87)	(N=22)	(N=197)
Church functions	28.4	36.8	22.7	31.5
Social outings (not part of a club)	54.5	40.2	54.5	48.2
Athletic/dance activities	6.8	12.6	0.0	8.6
Non-athletic club meetings or activities	3.4	3.4	0.0	3.0
Work related activities	6.8	5.7	18.2	7.6
Other	0.0	1.1	4.5	1.0
68. How much time do you spend with people outside your immediate family in an average week? (in hours)	(N=148)	(N=116)	(N=36)	(N)300
(Mean)	9.60	8.16	14.17	9.59
(S.D.)	13.58	10.49	16.79	13.01
69. Now I'm going to read a list of community groups and organizations. Tell me if you or anyone else in your family is now active in any of them?				
PTA	(N=194)	(N=135)	(N=45)	(N=374)
	25.3	41.5	37.8	32.6
Boy Scouts, Girl Scouts, 4-H Club or other youth groups	(N=194)	(N=136)	(N=45)	(N=375)
	22.2	39.7	35.6	30.1
Church organizations or social clubs	(N=194)	(N=136)	(N=45)	(N=375)
	49.0	61.8	53.3	54.1
Any political organization	(N=193)	(N=135)	(N=45)	(N=373)
	4.7	3.0	4.4	4.0
69A. Are you or anyone else in your family actively involved in any other community groups or organizations?	(N=187)	(N=136)	(N=45)	(N=368)
Yes	16.0	33.8	17.8	22.8
No	84.0	66.2	82.2	77.2

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
70. Where would you go if you or a member of your family needed emergency health care?	(N=192)	(N=133)	(N=43)	(N=368)
Hospital	76.6	80.5	79.1	78.3
Doctor	10.9	12.8	9.3	11.4
Health Service Agency	7.8	3.0	7.0	6.0
Relative or friend	2.1	0.8	2.3	1.6
Other agency	1.0	1.5	2.3	1.4
Other	1.6	1.5	0.0	1.4
Have you done that?	(N=191)	(N=134)	(N=43)	(N=368)
Yes	85.3	84.3	93.0	85.9
No	14.7	15.7	7.0	14.1
71. Where would you go if you were concerned about _____'s behavior or development and wanted some information or advice?	(N=148)	(N=120)	(N=38)	(N=306)
Doctor	42.6	30.8	44.7	38.2
Health Service Agency	10.1	12.5	7.9	10.8
Relative or friend	10.8	8.3	7.9	9.5
School	24.3	35.0	21.1	28.1
Church	2.0	5.0	5.3	3.6
Nowhere	1.4	0.8	5.3	1.6
Other agency	6.8	5.8	5.3	6.2
Other	2.0	1.7	2.6	2.0
Have you done that?	(N=159)	(N=123)	(N=40)	(N=322)
Yes	42.1	35.0	42.5	39.4
No	57.9	65.0	57.5	60.6
72. Where would you go for help if you or a member of your family were depressed or upset?	(N=154)	(N=120)	(N=42)	(N=316)
Doctor	43.5	31.7	23.8	36.4
Relative or friend	22.7	17.5	14.3	19.6
Health Service Agency	6.5	5.8	23.8	8.5
Church	13.0	31.7	16.7	20.6
Nowhere	6.5	5.0	14.3	7.0
Other agency	5.8	5.0	7.1	5.7
Other	1.9	3.3	0.0	2.2
Have you done that?	(N=152)	(N=125)	(N=40)	(N=317)
Yes	55.9	49.6	60.0	53.9
No	44.1	50.4	40.0	46.1

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
73. Where would you go for help with money problems? For example, if you got a big bill you couldn't pay?	(N=166)	(N=126)	(N=40)	(N=332)
Bank or Credit Union	33.1	48.4	32.5	38.9
Loan	9.0	3.2	5.0	6.3
Relative or friend	28.3	25.4	25.0	26.8
Person I owed debt to	7.8	4.8	15.0	7.5
Nowhere	3.6	2.4	5.0	3.3
Other organization	15.1	9.5	17.5	13.3
Other	2.4	5.6	0.0	3.3
Never had problem	0.6	0.8	0.0	0.6
Have you done that?	(N=168)	(N=128)	(N=40)	(N=336)
Yes	63.7	52.3	65.0	59.5
No	36.3	47.7	35.0	40.5
74. Where would you go if you needed help to find a job?	(N=178)	(N=119)	(N=41)	(N=338)
Government or Employment Agency	81.5	67.2	80.5	76.3
Job training or outreach program	0.6	0.0	0.0	0.3
Relative or friend	3.4	5.9	0.0	3.8
Look for a job	10.1	18.5	7.3	12.7
Seek training	0.0	0.8	4.9	0.9
Other agency	3.9	2.5	4.9	3.6
Other	0.6	3.4	2.4	1.8
Never had problem	0.0	1.7	0.0	0.6
Have you done that?	(N=180)	(N=125)	(N=42)	(N=347)
Yes	57.2	53.6	71.4	57.6
No	42.8	46.4	28.6	42.4
75. Whom would you ask if you had signed a contract or other paper that you didn't understand?	(N=179)	(N=130)	(N=43)	(N=352)
Lawyer	73.7	70.8	65.1	71.6
Legal aid or other legal agency	5.6	2.3	9.3	4.8
Relative or friend	7.8	12.3	9.3	9.7
Contractor	5.6	2.3	11.6	5.1
Sign it	0.0	0.0	2.3	0.3
Wouldn't sign it	2.8	5.4	2.3	3.7
Other agency	2.2	3.8	0.0	2.6
Other	2.2	3.1	0.0	2.3
Have you done that?	(N=179)	(N=128)	(N=43)	(N=350)
Yes	24.0	28.9	37.2	27.4
No	76.0	71.1	62.8	72.6

	HOME START	COMPARISON	HEAD START	TOTAL SAMPLE
76. Where would you go for help if your landlord refused to do necessary repairs?	(N=115)	(N=93)	(N=25)	(N=233)
Lawyer and sue	23.5	26.9	20.0	24.5
Legal aid or other legal agency	5.2	5.4	0.0	4.7
Move	13.0	14.0	16.0	13.7
Housing Agency	11.3	5.4	32.0	11.2
Landlord	10.4	7.5	8.0	9.0
Nowhere	3.5	3.2	0.0	3.0
Other agency	19.1	20.4	12.0	18.9
Other	12.2	8.6	8.0	10.3
Never had problem	1.7	8.6	4.0	4.7
Have you done that?	(N=126)	(N=101)	(N=30)	(N=257)
Yes	20.6	19.8	13.3	19.5
No	79.4	80.2	86.7	80.5
77. Where would you go for advice if you wanted to take a course or go back to school?	(N=140)	(N=122)	(N=37)	(N=299)
School	66.4	79.5	51.4	69.9
Counseling	2.1	4.1	2.7	3.0
Education-related agency	8.6	4.9	13.5	7.7
Other agency	14.3	6.6	21.6	12.0
Other	7.9	4.9	10.8	7.0
Already in school	0.7	0.0	0.0	0.3
Have you done that?	(N=151)	(N=124)	(N=40)	(N=315)
Yes	28.5	34.7	40.0	32.4
No	71.5	65.3	60.0	67.6
78. Are any family members currently participating in any of the following publicly funded programs?				
• Medicaid	(N=194)	(N=135)	(N=45)	(N=374)
Yes	29.4	11.1	35.6	23.5
No	70.6	88.9	64.4	76.5
• Welfare	(N=194)	(N=135)	(N=45)	(N=374)
Yes	33.5	14.1	42.2	27.5
No	66.5	85.9	57.8	72.5
• Food Stamps	(N=191)	(N=135)	(N=45)	(N=371)
Yes	46.1	17.0	40.0	34.8
No	53.9	83.0	60.0	65.2
• Job Training Programs	(N=193)	(N=135)	(N=45)	(N=373)
Yes	8.8	4.4	15.6	8.0
No	91.2	95.6	84.4	92.0
• Public Housing Projects	(N=193)	(N=135)	(N=45)	(N=373)
Yes	13.5	8.9	13.3	11.8
No	86.5	91.1	86.7	88.2

	HOME START	COMPAR-ISON	HEAD START	TOTAL SAMPLE
79. Roughly, what was your total family income two years ago?	(N=194)	(N=135)	(N=44)	(N=374)
Under $4,000	38.1	14.8	38.6	29.9
From $4,001 to $6,000	24.7	11.1	20.5	19.8
From $6,001 to $8,000	10.8	11.9	13.6	12.3
From $8,001 to $10,000	9.8	11.1	9.1	11.2
From $10,001 to $12,000	9.3	12.6	11.4	9.9
From $12,001 to $14,000	3.6	8.1	2.3	4.0
From $14,001 to $16,000	2.1	8.9	2.3	4.3
Over $16,000	1.5	21.4	2.3	8.6
What was your total family income last year?	(N=194)	(N=138)	(N=44)	(N=303)
Under $4,000	43.8	15.9	47.7	31.4
From $4,001 to $6,000	35.6	16.7	25.0	26.4
From $6,001 to $8,000	10.8	16.7	13.6	14.9
From $8,001 to $10,000	5.7	11.6	4.5	7.9
From $10,001 to $12,000	1.0	13.8	4.5	6.6
From $12,001 to $14,000	1.0	8.0	4.5	4.0
From $14,001 to $16,000	1.0	5.1	-	3.0
Over $16,000	1.0	12.3	2.3	5.9
80. Do you live	(N=187)	(N=132)	(N=42)	(N=361)
in a town or city?	47.6	46.2	81.0	51.0
on a farm or open country (2 1/2 miles from nearest town)?	52.4	53.8	19.0	49.0

SECTION A

	HOME START	HEAD START
A.1 While you were in Home/Head Start, did anyone from the program help you with any problems concerning money? For example, did anyone help you arrange for aid or food stamps even for a short period of time?	(N=187)	(N=45)
Yes	21.9	20.0
No	78.1	80.0
(If yes) what kind of financial help?	(N=39)	N(M=8)
Aid	48.7	12.5
Food Stamps	41.0	75.0
Both	10.3	12.5
A.2 Did anyone help with any problems concerning your family? Was this someone at the Home/Head Start Program or someone at a different agency?	(N=137)	(N=32)
Home/Head Start	41.6	43.8
Other agency	8.0	6.3
No one	50.4	50.0
A.3 Did anyone from the Home/Head Start Program help you or a member of the family obtain training for a job or provide encouragement or other assistance that helped you obtain a job?		
Training	(N=168)	(N=41)
Help given	4.2	4.9
No help provided	95.8	95.1
Encouragement or other assistance	(N=180)	(N=42)
Help given	10.6	9.5
No help provided	89.4	90.5
A.4 Home/Head Start often helped families obtain other things they needed like repairs to their home, seeds for a garden, or eye glasses for children. Can you recall any other things that Home/Head Start helped you get for you or your family? Either directly or by putting you in touch with another person or organization?	(N=188)	(N=45)
Yes	52.1	37.8
No	47.9	62.2

	HOME START	HEAD START
A.5 Looking back at it now, we would like your opinion of whether Home/Head Start provided enough opportunities for parents to participate in different activities. For each of the activities below, I would like your opinion of whether or not Home/ Head Start provided enough opportunity for that activity.		
Did the program provide enough opportunity		
To learn specific things about how children learn and grow?	(N=181)	(N=45)
Yes	90.6	91.1
No	9.4	8.9
To learn different ways to manage or discipline children?	(N=179)	(N=44)
Yes	69.8	70.5
No	30.2	29.5
To learn about managing budget, nutrition, home repairs?	(N=180)	(N=44)
Yes	58.3	45.5
No	41.7	54.5
To do crafts and learn new skills?	(N=182)	(N=43)
Yes	56.6	55.8
No	43.4	44.2
To go on trips to see new places?	(N=182)	(N=44)
Yes	74.7	84.1
No	25.3	15.9
To attend educational classes, get a GED, or obtain training for a job?	(N=179)	(N=45)
Yes	29.6	20.0
No	70.4	80.0
To get together for fun with other parents or families in the program?	(N=180)	(N=45)
Yes	86.1	84.4
No	13.9	15.6
To involve other members in the family to do things with the child?	(N=182)	(N=45)
Yes	69.8	62.2
No	30.2	37.8

	HOME START	HEAD START
To learn about services or activities offered by other agencies or organizations?	(N=181)	(N=45)
Yes	56.4	53.3
No	43.6	46.7
For parents to make decisions or choose activities for the Home/Head Start program?	(N=180)	(N=44)
Yes	70.0	75.0
No	30.0	25.0
For parents to evaluate the Home/ Head Start program?	(N=181)	(N=45)
Yes	83.4	80.0
No	16.6	20.0
(Home Start Only) To get children together for group activities other than field trips?	(N=179)	N/A
Yes	76.5	N/A
No	23.5	N/A

A.5 Level of Knowledge Gained[1]

	Home Start			Head Start		
	N	Mean	S.D.	N	Mean	S.D.
To learn specific things about how children learn and grow	172	3.10	0.90	42	3.02	1.02
To learn different ways to manage or discipline children	152	2.85	1.05	36	2.78	1.10
To learn about managing budget, nutrition, home repairs	145	2.52	1.23	34	2.09	1.26
To do crafts and learn new skills	143	2.50	1.22	37	2.38	1.30
To go on trips to see new places	152	2.71	1.17	40	2.35	1.31
To attend educational classes, get a GED or obtain training for a job	116	1.52	1.02	29	1.79	1.26
To get together for fun with other parents or families in the program	169	2.98	1.05	43	2.91	1.13
To involve other members of the family to do things with the child?	152	2.86	1.09	38	2.76	1.20
To learn about services or activities offered by other agencies or organizations?	144	2.07	1.13	38	2.13	1.21
For parents to make decisions or choose activities for the Home/Head Start program?	157	2.63	1.17	41	2.73	1.12
For parents to evaluate the Home/Head Start program?	170	2.86	1.01	40	2.83	1.11
To get children together for group activities other than field trips?	162	2.83	1.15	N/A	N/A	N/A

[1] codes
1 = not at all
2 = little
3 = some
4 = a lot

What was least important to you?	HOME START (N=175)	HEAD START (N=44)
To meet other parents or making new friends.	11.4	4.5
To learn new activities or games to do with my child.	4.0	9.1
To learn about how my child learns and grows.	1.1	9.1
To learn about ways to manage or discipline my child.	8.0	4.5
To get my health checked or taken care of.	17.1	13.6
To do crafts or learn new skills such as sewing, cake decorating, or first aid.	14.3	13.6
To get out of the house for trips, meetings or workshops.	21.7	29.5
To get other members of the family interested in doing things with the children.	4.0	2.3
To have someone to talk to or help with my ideas or my problems.	18.3	13.6

	HOME START	HEAD START
A.6 Now I'd like to ask you some questions about your participation in the Home/ Head Start program. Different parents like different things about Home/Head Start for themselves and their children. I would like for you to pick from this list the one thing that was most important to you about the program for yourself.	(N=182)	(N=44)
To meet other parents or making new friends.	15.4	25.0
To learn new activities or games to do with my child.	21.4	6.8
To learn about how my child learns and grows.	40.1	45.5
To learn about ways to manage or discipline my child.	5.5	2.3
To get my health checked or taken care of.	0.5	2.3
To do crafts or learn new skills such as sewing, cake decorating or first aid.	0.5	--
To get out of the house for trips, meetings or workshops.	5.5	--
To get other members of the family interested in doing things with the children.	3.8	4.5
To have someone to talk to or help with my ideas or my problems.	7.1	13.6

	HOME START	HEAD START
A.7 When you look back at your time in Home/Head Start, can you think of ways the program might have been made better?	(N=159)	(N=40)
Yes	39.6	30.0
No	60.4	70.0
In what ways?		
More visits	16.4	2.5
More activities	5.0	10.0
More parent participation	6.3	7.5
More money to do activities with	1.3	--
More materials	0.6	5.0
Better coordination	0.6	5.0
Didn't last long enough	7.5	2.5
Other	5.7	5.0
A.8 How long do you think a family should stay in the program?	(N=180)	(N=43)
Until ready to leave	14.4	23.3
One year	13.9	14.0
Two years	22.2	18.6
As often as they have children between 3-5 years old	20.6	9.3
Other	28.9	34.9

Home Start Only

A.9 Now I'd like to ask you about your home visitor. Did you have more than one home visitor during the time you were in the program?	(N=188)
Yes	51.1
No	48.9
A.10 In your opinion, was your home visitor better than others, the same as others, or not as good as others in the program?	(N=184)
Better	36.4
Same	43.5
Not as good	4.3
Don't know	15.8
Why?	(N=140)
More or special experience, ability knowledge	7.1
More time, did more or explained more	6.4
Nice	33.6
Less time, did less or explained less	5.0
Wasn't nice	0.7
All were nice, good, or same	20.7
Can't compare	17.9
Other	8.6
A.11 Have you had any kind of contact with your home visitor since child graduated from the program?	(N=188)
Yes	55.3
No	44.7
(If yes) how often have you seen her during the past two years?	(N=101)
Once or twice a year	40.6
Several times a year	32.7
Once a month	6.9
More than once a month	8.9
Weekly	10.9